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ABSTRACT

This literature review, part of the Project BORN FREE training series for teachers, counselors, administrators, and parents, focuses on career socialization of adolescent boys and girls. In this review, conceptual models, theories of socialization, and empirical studies pertinent to secondary-age students are examined. The major topics address the areas of sex-role stereotyping in schools, self-concept, locus of control, achievement motivation, psychological barriers, career information processing, influences on career development, and interventions to reduce sex bias in career options. (Author/KMF)

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Technical Report No. 2

Project BORN FREE

SELECTED REVIEW OF THE LITERATURE ON CAREER DEVELOPMENT AND SEX-ROLE STEREOTYPING AT THE SECONDARY LEVEL

by

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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The Authors

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INTRODUCTION

Both women and men are seriously limited in their career development and career decisions by the sex biases and sex-role stereotyping that characterize our society. Far too often, the social concepts of sex roles are reflected in the biased explicit and/or implicit direction that is given to students in schools, colleges and universities. This is one of the basic assumptions of Project BORN FREE, which is a collaborative effort to reduce sex-role stereotyping in educational institutions from kindergarten through college. The major goal is to promote the growth of every individual to her/his fullest potential and alter the limiting aspects of the directions currently in practice in secondary education.

This review of literature was undertaken to provide a partial base for the development of training materials for educators and parents to become aware of ways in which they might limit or can facilitate the career growth of youth in junior and senior high. One goal of the review is to "learn what we know" about the career socialization of adolescent boys and girls. The conceptual model of career development which serves as the framework for Project BORN FREE and for the materials developed is the University of Minnesota Career Development Curriculum (CDC) created by Tennyson, Hansen, Klaurens and Antholz (1975).

In this review over twenty descriptions related to career development and sex-role socialization were utilized in Psychological Abstracts and ERIC computer searches which generated over 400 relevant studies published from 1959 to the present. These studies were then abstracted and the most relevant findings are listed in this review.

Similar reviews have been completed for the elementary and postsecondary/higher education levels. Readers interested in the research and theoretical literature dealing with career socialization at those levels are referred to those respective reviews.

The major topics identified in this review of career-related sex-role stereotyping are: psychological barriers, self-concept, locus of control, achievement motivation, career information processing, influencers of career development, sex-role stereotyping, and interventions to reduce sex bias in career options. Before turning to these specific topics, a brief background of the junior-senior high school developmental level will be presented.

It is fully acknowledged that the state of the art of knowledge about career development and career decision making is incomplete. Many of the studies of vocational behavior and development have been done on males. An extremely important question is the extent to which differences in socioeconomic levels and race and ethnic diversity are adequately represented in the literature of the field.

Another basic concern is that of what is really known about sex differences and the implications of these differences for career socialization and development. While there are voluminous materials, including the monumental survey of

research on sex differences by Maccoby and Jacklin (1974), there is still controversy about what sex differences are based on unfounded beliefs, are fairly well established, and are equivocal. Block (1976), while crediting the herculean effort of Maccoby and Jacklin to evaluate the empirical literature, challenges their conclusions as debatable.

Recognizing these imperfections in the literature and in our own selection and judgment, the authors nonetheless undertook the challenging task of trying to determine what is known about adolescent vocational behavior as affected by sex roles. Perhaps this review will be more helpful in the interest it generates and the thinking it stimulates about career socialization than in any definitive answers it provides.

Career Development at Junior and Senior High Levels

The junior and senior high school years for girls and boys mark a period in their lives best described as transitional. During the years from seventh through ninth grades the adolescent normally undergoes great changes physically, intellectually, and socially. There is a heightened awareness or consciousness about self and the world surrounding that self. The child for the first time begins to show a concern about the future as well as the present and is able to make hypotheses about the future.

This is a period when the adolescent will challenge accepted standards and methods of operation and attempt to substitute his/her own as a way of testing self-control.

A major aspect of the adolescent's personal development is concerned with the forming of a variety of roles. It is essential that during the adolescent's junior and senior high years she/he be exposed to many lifestyles and career roles so as to more accurately choose career roles and lifestyles that are appropriate for the individual. Career development education is focused on those processes which emphasize individual student learning, provide for the development of personal values and self-concepts, enable young people to explore the relation between their lives and the adult world, and help them understand who they are and what they can become.

In career development education, necessary assumptions are made about several definitions of words. "Career" according to the AVA--NVGA Commission on Career Guidance and Vocational Education (1973), means a time-extended working out of a purposeful life pattern through work undertaken and engaged in by the individual. Work is broadly conceived to include nonpaid employment, educational endeavors and some avocational efforts.

Tennyson, Hansen, Klaurens, and Antholz (1975) have developed a conceptual framework for facilitating career development--the Career Development Curriculum (CDC) Career Management Tasks. The CDC is a comprehensive unified curriculum model to be used by counselors and teachers in implementing career education programs at four levels--primary, intermediate, junior high and senior high years.

Performance and enabling objectives have been developed along with junior and senior high resource units for educators. These provide a framework for sequential, developmental experiences for girls and boys from kindergarten through high school. Career management tasks are suggested for each level or life stage, including the postsecondary years.

In the junior high years, the career management tasks include: clarification of a self-concept; assumption of responsibility for career planning; formulation of tentative career goals; acquiring knowledge of occupations, work settings, and lifestyles; acquiring knowledge of educational and vocational resources; awareness of the decision-making process; and acquiring a sense of independence. During this stage, referred to as the Asserting Stage, the potential for abstract thought raises many possibilities for clarifying self-concept and learning decision-making processes.

During grades 10 through 12, the adolescent has reached a level of abstract thinking where it becomes possible to organize her or his values into a system. This involves bringing together a mass of values and prioritizing the values as to level of importance. This stage, referred to as the Organizing Stage, is a developmental period in which there is a marked shift from behavior based on rules and social roles sanctioned by the group to behavior reflective of a high degree of self-evaluation and self-criticism.

The career management tasks for this level are: reality testing of a self-concept; awareness of preferred lifestyle; reformulation of tentative career goals; increasing knowledge of and experience in occupations and work settings; acquiring knowledge of educational and vocational paths; clarification of the decision-making process as related to self; and commitment with tentativeness within a changing world.

Teachers, administrators, counselors, parents--educators--can have an extremely powerful influence over the adolescent during this transitional period. In order to more fully affect the acquisition of skills detailed in the career management tasks, it is important to examine the literature which exists in relation to career sex-role stereotyping and career development for adolescents.

In this investigation, it soon became apparent that existing research did not differentiate between junior high and senior high school students. Thus, this investigation combines these two life stages, but points out existing differences, when appropriate, between the two age levels.

This selected review of the literature on sex-role stereotyping and career options in junior and senior high school is organized into five sections: Part I presents a general discussion of sex-role stereotyping in the schools, highlighting career-related problems in the areas of student activities, athletics, curriculum and subjects, textbooks, and role orientation. Part II examines several psychological variables considered of special relevance to career development as defined in the conceptual model which serves as a base for Project BORN FREE. These include self-concept or self-esteem, sense of agency or locus

of control, and achievement motivation/aspirations. Part III delves into the literature on information seeking and processing and ways in which the nature, type, and range of career information affect adolescents' career planning and decision making.

Part IV is concerned with the influencers of career development for both boys and girls. Studies are reviewed of the influences of parents, teachers, counselors and institutions. Acknowledgment is made of the importance of peers and media, but these are only touched on since they are not the major target of Project BORN FREE. Finally, Part V presents only a small sample of some of the interventions which have been implemented to reduce sex-role stereotyping in career options. A Summary section cautions about generalizing too freely from the studies reported and emphasizes the need to check empirical findings against personal clinical observations and experience. The summary presents a succinct set of statements which seem to be true from the studies included in this review.

PART I: SEX-ROLE STEREOTYPING IN THE SCHOOLS

Sex-role stereotyping of girls and boys begins at an early age. While recognizing that the school is not the only institution involved in the process of sex-role stereotyping of boys and girls, educators can and must examine the educational institutions in which they have influence to take preventive as well as remedial action. Project BORN FREE's aims include the direct involvement of these educational change agents--parents, teachers, counselors, and administrators--who can exert power to effect changes. These change agents can intervene in the school systems so as to help junior and senior high school students to become more fully aware of career options available to them.

It is important that students be exposed to working women and men at different stages of life, from varied educational backgrounds and in many different relationships with each other. Through direct personal contact with a variety of female and male adult role models in non-traditional careers and indirect contact through portrayal of females and males in textbooks, curriculum, etc., it is hoped that students will gain greater awareness of and interest in many traditional and non-traditional career options which might become possibilities for them. Even more important is an opportunity to engage in self-examination and reflection in order to integrate external and internal career information. The development and implementation of sex-bias-free career development education programs is an important step toward this goal.

The educational change agents' jobs are not going to be easy. The literature abounds with studies elaborating on the existence of external and/or environmental restriction cues that reinforce sex-role stereotypes in the educational system. A discussion of this literature follows.

Sexual Complementarity

At the elementary, junior and senior high levels, the school and the structural aspects of schooling can have a major impact on students. Dobbert (1975) describes some of the structural processes of schools which not only encourage but also reinforce role stereotypes for girls and boys. Because of the relevance of Dobbert's analysis to this investigation, her observations are reported in some detail.

Dobbert attributes sexual task differentiation, historically, to social and economic complementarity, where tasks are divided so that all tasks necessary to cultural perpetration might be accomplished with a reasonable expenditure of energy.

Sexual complementarity, then, can be viewed as socially useful and a necessary condition for the existence of a society. Evolutionarily, the form of complementarity as developed among primates was based upon sex. However, as Dobbert points out, a genetically determined complementarity is not necessarily useful for survival in the machine age.

In society, historically, both social and economic duties have been divided into home duties assigned to women and public duties assigned to men. This inherited form of complementarity, based upon a social judgment about genetic factors, is supported by the schools in both structural and non-structural ways, according to Dobbert. She posits that sexual complementarity is most clearly seen in two formal structural role groupings within the schools, the first in the structure of non-academic activities, and the second in the structure of adult roles within schools.

Student Activities

In the first role grouping of non-academic student activities, Dobbert points to a major lesson students receive from the nation's schools concerning complementarity in sports activities such as football or basketball. Males do the sports activities which permit the females to do the cheerleading activity. Another example is seen in the structure of formal dances. The male asks the female for a date, the female accepts, and the date therefore takes place. The importance of this type of complementarity is often emphasized when many schools have "reverse dances," such as Sadie Hawkins Days, where females are expected to ask the males. By emphasizing this as abnormal, the school highlights the structural importance of the normal social complementarity of the dating situation.

Developmental aspects of complementarity can be seen by the following examples: Boys begin to learn male solidarity in grade school through both team games and through associating in gang patterns. Boys are asked by teachers to do the heavier maintenance tasks (e.g., move chairs, run projectors). Boys initiate dates by asking girls out.

At higher grade levels, the team patterns of boys continue as boys are led into team sports, where they receive recognition by the spectators (parents and girl peers) and consequently prestige. Boys can further receive high income from team sports participation or, using another route, join men's organizations such as Rotary Club which are important parts of the political governance in this nation and which may formally lead into politics.

The developmental patterns for girls, traditionally, is quite different. Girls at school eat in pairs or triplets and are often involved in individual play. They are given nurturant and cleaning tasks by teachers (cleaning up the kitchen mess). During school physical education classes, girls are instructed in the gentle sports. They <u>wait</u> to be asked out for a date; they compete with other girls for dates by developing themselves as physically attractive commodities, and eventually move into nurturant services such as teaching, nursing or office skills (e.g., secretarial and office work).

Adult Models

The second role grouping discussed by Dobbert comes from the students' observations of the arrangements of adult personnel in the school governing system. In the high school, only 3% in the principal's role are women (Taylor, 1973). Girls quickly learn that females, in general, do not fill administrative roles and that those women who do are probably unusual or exceptional.

Ambiguous Messages

Dobbert (1975) notes that the message of the schools toward sexual complementarity is ambiguous. She observes, for example, that both young women and men are eligible to take the same physics class. During this class they use the same texts, take the same tests, and watch or perform the same experiments. Further, both males and females from public schools graduate with the same ceremony. Schools overtly and officially carry messages of sexual equality, e.g., in compliance with Title IX legislation, and yet covertly place men and women into traditional roles, with girls becoming homecoming queens and boys heroes of football teams. It is no small wonder that confusion exists for girls and boys in their role orientations and career awareness.

Textbook Images

Hurst (1973) analyzed four eighth grade literature anthologies to determine what roles women played in adolescent literature anthologies. Out of the 171 selections analyzed, only 24 had female authors. Most of the stories depicted women in traditional roles of housewife and mother.

The Hurst study also noted females who were shown as fully developed characters as either pre-menstrual or post-menopausal. Active young girls interested in many things were characterized as tomboys. Women shown as professionals were teachers, "old maids," and heartless people. Another stereotype consisted of women "plotting to catch a man." In this study, it was noted that approximately one-third to one-half of the selections did not even mention a female character, whereas boys were given numerous attractive models to follow.

Birk, Cooper and Tanney (1973) examined illustrations in an array of career literature to determine whether sex-role stereotyping and racial stereotyping existed. Widely known sources such as the Occupational Outlook Handbook, The Encyclopedia of Careers and Vocational Guidance, Volumes I and II, and the Science Research Associates' Occupational Briefs were used. They found that women and members of ethnic minorities were severely underrepresented. Overwhelmingly, white men were shown doing exciting, challenging, autonomous tasks while women were repeatedly portrayed as nurses, teachers and secretaries.

Another interesting discovery on the part of the authors concerns emotional representation. Women statistically more frequently than men showed positive affect. Men appeared to be about the serious business of work while women smiled.

Luckenbill (1974) analyzed the "father image" in a body of fiction currently recommended by the Junior High School Library Catalog (2nd Edition). Of its 227 novels with 20th century U.S. settings, he took a random sample of 22%. His results demonstrated the limited sex-role identities and models youth are given through literature. Eighty percent of the fathers analyzed were portrayed as members of broad middle class, 16% from lower class, and 3% from upper class. Eighty-four percent of the fathers analyzed were white; 13% were black and 3% were other ethnic groups. Fathers were shown most often as heads of households (68%), and of these, 71% acted as sole breadwinners. Also, fathers were pictured as either having initiated sanctions or insisting on conformity of other family members.

Britton (1973) undertook a study which analyzed 16 different well-known reading series for grades one through ten in terms of sex stereotyping and career roles depicted for males and females. A total of 4,144 stories were analyzed. Fifty-eight percent (N=2,434) of these stories featured males in major roles while 14% (N=631) featured females in major roles; the OTHER category accounted for 28% and was utilized when neither male nor female gender could be assigned, e.g., neuter animals. A total of 3,094 different career roles for males and females were depicted: 86% of the situations or 2,623 stories had males shown, while 14% (N=471) showed females. In the series, descriptive words for boys were daring, intelligent, ingenious, problem solver, doers, achievers, builders, sportspeople, heroic, persevering, aggressive, stoic, emotionless. Girls were portrayed as docile, pleasing, self-effacing, incompetent, inept, passive, non-achieving, unthinking observers, neat and clean.

Trecker (1971), in examining the twelve most popular U.S. history texts used in the schools, found that in a typical American history text, one of its 500 to 800 pages is "generously devoted to women, their problems and their contributions." Some of her comments seem worthy of note:

> History, despite its enviable reputation for presenting the important factors about our past, is influenced by considerations other than the simple love of truth. It is an instrument of the greatest social utility, and the story of our past is a potent means of transmitting cultural images and stereotypes (p. 250).

When women were presented in these texts, they were often found to be creatures concerned with trivia, helpless, and ineffectual when it came to serious matters. Trecker concluded in her study that a student reading these texts might be limited to the following description of the history and contributions of the American woman:

> Women arrived in 1619 (a curious choice if meant to be their first acquaintance with the new world). They held the Seneca Falls Convention on Women's Rights in 1848. During the rest of the 19th century they participated in reform movements, chiefly temperance, and were exploited in factories. In 1923, they were given the vote. They joined the armed forces for the first time during the second World War and thereafter have enjoyed the good life in America (p. 252).

Thetford (1973) points out that it is during the late elementary and junior high years that most students reach their reading peak and suggests that the schools offer a wide selection of career information, especially in the form of a variety of role models for young girls in literature. In this article, she further stresses the need for library and classroom texts which depict working men and women at different stages of life from varied educational backgrounds and in many different relationships with each other. She offers questions to ask oneself in an effort to eliminate stereotyping in books.

The area of textbook stereotypic images thus appears to be an important aspect of career sex-role stereotypes. As one major task of Project BORN FREE involves development of training materials for teachers, an important theme to address would be considerations for eliminating the sex stereotyping that occurs in textbooks and in the curriculum.

Stereotypes in Science and Mathematics

It appears that in the scientific fields, the stereotypic treatment of boys and girls is highlighted. Hardin and Dede (1973) discuss forces which perpetuate sex-role stereotyping in science education. Such forces include lack of role models to encourage girls to become scientists; a small group of women actually in science which may limit models of success for female students (the authors cited psychological risks of overtly competing with men); subtle socialization of boys and girls, e.g., in the toys they play with (boys receive mechanical and construction-oriented toys while girls receive dramatic play toys); and books which portray little boys as active problem solvers, while girls are often in need of support and help. The authors suggest the possibility that girls' interests in science begin to wane in junior high school and that boys and girls are roughly identical in both achievement and interest until grade nine when interest and achievement fall for girls. This is supported by Flanagan and Jung (1971) who found that at that age only 3% of the girls as compared with 25% of the boys in the PROJECT TALENT follow-up expressed vocational preferences for science and mathematics.

Astin (1973) found that girls perform as well as boys in math, science and tests of spatial relationship up to about age 10. Thereafter their performance becomes increasingly poorer. Astin has suggested that this effect is due, at least in part, to differential reinforcement on the part of parents and teachers.

If Astin is correct in her suggestions, then it would seem feasible that this decline in girls' performance with increased age could be corrected so as to obtain performance more reflective of individual ability.

Sex-Role Stereotyping in Athletics

With the advent and implementation of Title IX legislation, discrimination on the basis of sex in all federally assisted programs is forbidden. As public schools receive large sums of money from the Federal Government, they are directly affected by this legislation. The basic provision of Title IX of the Education Amendments of 1972 reads:

> No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance... (Sandler, 1975, p. 8).

Sandler (1975) discusses Title IX legislation and points out that athletics is probably the most controversial area covered by this legislation. She notes that "here the discrimination is perhaps the greatest, certainly in terms of the difference in the amount of money spent on each sex and in terms of overt discriminatory policies and practices" (p. 11).

Sandler attributes the heated debate and resistance to Title IX legislation in the field of athletics to the essence of society's cultural stereotyped norms. She states that:

> Men are "supposed" to be strong and aggressive and women are "supposed" to be weak and passive. Women and girls have generally not been encouraged to participate in physical activities partly because the traits associated with athletic excellence such as achievement, self-confidence, leadership, and strength are often seen as being in "contradiction" with the roles females are "supposed" to play (p. 11).

Despite this legislation, however, stereotypes in the field of athletics are well-defined for girls and boys.

Boring, a Rutgers University professor, is not very optimistic about a rapid change in the status quo for girls in athletics as long as "girls are recruited as cheerleaders and spectators at boys' events, rather than being urged to participate in their own sports." She views cheerleading as undeniably promoting the image of girls as sex objects, commodities, seeing the "short skirt squads" as a probable deterrent to sports participation for girls since they "reinforce (second) sex stereotypes and relegate females to the sidelines" (Engle, 1973, p. 29).

A myth/misconception regarding girls' participation in athletics is characterized by Dr. H. Roger Collins, chief of sports medicine at a Cleveland clinic, and former football coach. The myth that females' fragile bones, underdeveloped muscles and vulnerable reproductive organs make them much more prone to injury than boys on the athletic field, and that girls are highly emotional creatures, unequipped to withstand the psychological strain of competitive sports, is refuted by Dr. Collins. He writes that: competitive games are no riskier for girls than boys; the reproductive organs of females are actually less vulnerable to injury than males by the fact they are internal rather than external; females' bones aren't more fragile but just smaller. He also points out that although girls do have less muscle mass, hormonal differences and lack of exercise need to be considered (Engle, 1973).

Another myth attacked by Engle (1973) is that girls are not interested in competitive sports. The author points to Iowa where girls have not been discouraged from participating in sports and enjoy equal funding, practice facilities and coaching, and where thousands of females join teams and compete, often drawing bigger crowds than the boys.

While a review of the literature does produce studies which indicate the socialization problems for athletic women, there seems to be a void in examination of the reverse--the socialization problems for non-athletic males. It would seem logical that non-athletic boys would endure hardships in not living up to the traditionally defined "masculine role," a major part of the role being involvement in athletics. From general non-scientific observations of male students in junior and senior high school, the non-athletic boys do seem to have less popularity with the male and female peers than do their more athletic male counterparts.

Cottle, in his book The Abandoners (1972), alludes to the hardships endured by the non-athletic boys. In a description of the "skins against the shirts" during regularly held basketball games, the "skins" had to remove their shirts to differentiate the teams. Discussing the embarassment of this situation, Cottle writes:

> Why was it so embarrassing, this exposure of skin and the display of our chests and backs? Some of us had acne and that was humiliating, but I think that more than anything, it was that physically we simply were not up to the ideal stature, the ideal posture, size and strength. Clearly the ideal was present in all our minds...
>
> As skins and shirts we played each other in basketball, expending muscular energy, expending competitive energy, for sports offered a perfect way to find out who, after all, were the best, the elite, and ultimately, the single heroic one (Cottle, 1972, pp. 146-147).

Effects on Students' Role Orientation Perceptions

It does appear that schools and society have given covert and overt messages to students regarding appropriate traditional sex roles. In a study with 235 boys and girls from sixth and ninth grades in three elementary and two junior high schools in Ithaca, New York, Stein (1971) examined the relationships of sex-role standards and preference to attainment value, expectancy and standards of performance in six areas of achievement: mechanical (and spatial), athletic, math, reading, artistic (arts and music), and social skills. Subjects were instructed to review a list of 42 items and indicate whether they considered the activity to be more boyish or girlish. Subjects were also asked to rank from most to least important to them the six areas previously mentioned. As expected, girls in both age groups had highest minimum standard scores on social skills and lowest on mechanical, while boys scored highest on mechanical and lowest on social skills. Also, the authors found a developmental trend which showed the ninth grade boys and girls more firmly entrenched in the stereotypic masculine and feminine areas than their sixth grade counterparts.

An implication drawn from this study is that the strength of the stereotypic roles viewed appropriate for boys and girls seems to increase with age. Also, these stereotyped roles appear to be more fully developed in the later junior high and senior high school years. It seems appropriate that Project BORN FREE address this issue and work toward decreasing the strength of role stereotypes on a developmental basis.

Sparks (1967) found some interesting results when administering the Strong Vocational Interest Blank for Women (SVIB-W) to 44 high school girls. The first time the inventory was administered, standard instructions were given. Later, the girls again took the same inventory but were instructed to "pretend you are boys taking the inventory." Results showed substantial increments on the lawyer and engineer interest scales and significant decrements on the elementary school teacher scale. This study seems to suggest that women might be fearful of entering traditionally viewed masculine occupations and that these fears might obstruct pursuance of non-traditional female careers.

The results of Sparks are reinforced by a study of Entwisle and Greenberger (1970) in an investigation of 270 boys and 305 girls from a ninth grade school in Baltimore. Students answered three questions on women's roles which are included in a large battery of tests. The study revealed that, of various sets of boys grouped by intelligence and social class, the higher the intelligence and social class of the boys, the less they expected women to achieve as scientists, lawyers, professors, doctors and other professionals. Also, there was a marked variance between boys' and girls' opinions about women's roles, with boys being consistently more conservative.

Sex-Role Attitudinal Differences

Many studies have been conducted to examine attitudinal differences of elementary and secondary students toward the increased social, economic and political participation by women. Greenberg (1973) surveyed 1,600 students from grades 4, 6, 8, and 10. Results indicated females were more likely to give an egalitarian response than males for all grade levels. Egalitarian response was defined as being more positive and favorable to the concept of social change for women, so as to provide them with greater freedom to participate in social, economic and political spheres. Also apparent in the study were the developmental nature and awareness of vocational attitudes and choices for both sexes. Males after grade 4 and females after grade 6 were more likely to give egalitarian responses than lower grade students.

Sheppard and Hess (1975) gave kindergarten, eighth grade, college and adult subjects a list of 43 occupations and asked them to rate whether they should be performed by a male, a female or either sex. The occupations had been previously rated in terms of traditional sex-appropriate occupations by 50 men and 50 women in introductory college psychology courses. All items used in the study had at least 60% agreement by male and female judges. Using the term "liberality" to define the number of items on which each subject deviated from traditionally rated occupations, the investigators obtained results indicating that overall liberality increased from kindergarten to eighth grade to college, and then decreased moderately for the adult sample. Except at the kindergarten level, females were considerably more liberal than males.

Stereotypic Role Orientations

In Glendale, Arizona, 189 high school senior women attending a comprehensive high school were given the Traditional Sex-Role Adherence Inventory (TSRA) an instrument devised for this study which consisted of 100 occupational titles to be designated as associated with males, females or both males and females. Ten occupational categories, each with ten specific occupations, were included. Subjects were assigned social class membership according to the occupation of the head of the households in which they lived. Differences at or beyond the .05 level were found for occupational categories of semiprofessional, managerial and office skilled and semi-skilled. In these cases, perception of traditional sex-role adherence appeared to be a function of social class membership (MacPherson, 1971).

In a study of 351 freshmen and 291 seniors from nine rural high schools, subjects responded to a 124-item adjective checklist each item of which had been

previously rated significantly more appropriate for one sex or the other (.001 level). Results indicated that girls tended to be more traditionally feminine, while boys who were unsure of their masculinity strived to demonstrate it in ways that impeded their academic achievement. The authors contend that schools tend to reinforce and reward female students for more "feminine behaviors" and suggests that this more firmly entrenches girls in their femininity, rather than moving them toward more emergent roles. Evidence is demonstrated, they point out, in the fact that the senior girls had more feminine sex-role identity scores than freshman girls; and although both groups of girls' GPA's were positively correlated to sex-role identity scores, senior girls' correlation was significant at the .05 level while freshmen girls' correlation was significant at the .001 level (Ponzo & Strowig, 1973).

Etaugh and Rose (1975) concluded that sex bias in the evaluation of performance is well established in boys and girls by early adolescence. The authors used 252 seventh, ninth and eleventh grade students (42 females and 42 males at each level) attending middle-class public schools. Subjects were given booklets of sex articles, all of which had been previously rated in a pilot study as having feminine, masculine or neutral subject matter. For each article, half of the booklets given to subjects of each sex had fictitious male author names and half had fictitious female author names. Subjects gave letter grades of A through F for each article. The adolescents differentially evaluated the performance of the male and female authors, and, in all but one instance, this took the form of devaluing the achievement of females.

Similar results were found by Feather and Simon (1975), who used secondary female students from a private school in Australia. Their results indicated that a person who succeeds (or fails) may be described in favorable or unfavorable terms, and the success (or failure) may have positive or negative consequences solely on the basis of that person's sex.

It appears that the literature is replete with examples, studies, and essays which address the questions of sex-role conditioning, its occurrence and perpetration in the educational system and the perceptions students have for appropriate sex-role behavior. The big challenge appears to be, "What can we educators and parents do about these problems?" Certainly educators and parents can help expand the range of options through systematic developmental career education programs, through supplemental curricular materials, by providing alternative role models through school visits or field trips and through student discussions, consciousness raising and the counseling process.

> To break free of the traditional sex-role stereotypes, a boy needs to know that he does not have to be stronger and braver, and better than any girl or risk losing his sexual identity, and a girl needs to know that she does not have to be, or pretend to be, more delicate, timid, and dependent to be a "real" girl. Educators can create an environment in which girls and boys, young women and young men, all develop their individual physical and intellectual strengths, share leadership roles, and work as partners in curricular and extracurricular activities (Verheyden-Hilliard, 1976, p. 10).

PART II: PSYCHOLOGICAL VARIABLES

Self-Concept

For several decades psychologists and educators have demonstrated increasing interest in the use of the self-concept notion in the prediction and explanation of behavior. This is of particular importance in adolescence, as a major task of this life stage is a re-evaluation of a self-concept, or in Erikson's terms, the development of a sense of identity.

With regard to Project BORN FREE, several questions in this area need to be answered: Are there sex differences in self-concepts of adolescents, and are there any trends toward age changes in self-concept during adolescence? The facilitators and inhibitors of the development of positive self-concepts also need to be identified, as well as the implications for career development activities.

Before examining career-related self-concept, it is important to try to identify the nature of general self-concept foundation. The general theme underlying thinking about the development of self-concept is that significant others have a tremendous impact on a person's concept of her/himself.

William James (1892) identified three different parts of the self which he called the material self, the spiritual self, and the social self. The material self is a single category including a person's body and all material possessions. The spiritual self is also a single category including all of a person's psychological facilities and dispositions.

The social self, however, is a multiple category containing many social selves. It is assumed that there is a separate social self for every outside person who recognizes the individual. Theoretically this social self differs according to who is watching. The ideas of James led to the conceptualization of the looking-glass self (Cooley, 1902). What this means is that individuals attempt to see their world by taking the role of others. If they try to look at themselves and the world through the eyes of observers, one of the things they see is themselves.

Social comparison theory (Festinger, 1954) provides a bridge between these conceptualizations and the period of adolescence. This theory is based primarily on two propositions. First, all persons are motivated to evaluate their opinions and abilities. Secondly, in the absence of a physical reality, people compare themselves with others to make such an evaluation. This process of social validation is one way of testing the reality of one's self-concept. That this does indeed occur is evidenced in the findings of a study by Thomas, Gegas and Calonico (1974). The authors attempted to discover if adolescents' self-concepts do actually reflect parental evaluations. It was found that this "looking-glass" process more readily accounts for the formation of self-concept than does a modeling theory which postulates that children model parents' positive statements about their own self-concepts.

Another related concept is taken from Piaget's theory of cognitive development. The major task of adolescence is seen as the conquest of thought. Formal cognitive operations permit the adolescent to conceptualize her/his own thought or, in other words, to take her/his own mental constructs as objects and reason about them (Inhelder & Piaget, 1958). This also allows the person to conceptualize others' thoughts. However, the stage of adolescence contains a hint of egocentrism as do previous cognitive stages (Elkind, 1967). The adolescent fails to differentiate between "objects toward which the thoughts of others are directed and those which are the focus of her/his own concern" (p. 82). Thus, the assumption of adolescents is that other persons are as obsessed with appearance and behavior as they are themselves. This constitutes the egocentrism of adolescence.

These conceptual frameworks lead to the conclusion that significant others play a very important part in the validation of an adolescent's self-concept. Parents, teachers, and peers all interact with the adolescent's own thoughts to indicate (realistically or falsely) that a person can or cannot do certain things. Regardless of the truth behind these perceptions, the message remains the same and contributes to the adolescent's conception of the self. This issue is considered at length in this paper and under the heading of "Influencers."

One of the prominent career development theorists who has examined career development in terms of the self-concept is Super (1957). Super defined career development as a "lifelong process of implementing a self-concept with satisfaction for self and benefit for society." Tiedeman and O'Hara (1963) also were among those who defined career development in terms of self-development.

When considering career development as a process of implementing one's view of self, it is important to examine career management tasks facing that self over a person's life cycle. Tennyson, Hansen, Klaurens, and Antholz (1975) have designed a Career Development Curriculum (CDC) that involves stage-related tasks relevant to career development, especially from the kindergarten through senior high.

"Asserting Stage" is the label given to the period of grades 7-9. During this phase of life, each person undergoes profound emotional, physical, social, and cognitive changes. Tuckman (1974) states that the individual of this age group begins to challenge the accepted standards and methods of operation and tries to substitute her or his own methods. This is a way of testing control over oneself. According to Erikson (1963) the major concern during this developmental stage is identity. Individuals must begin the process of clarifying who they are. Extrapolating from these ideas, developers of the CDC identified a major task of the asserting stage, namely, the clarification of a self-concept.

The succeeding stage covering the period of senior high is called the Organizing Stage. At this stage of life students use the concepts which they hold about themselves and their environment and their ability to cope with it, internalizing them to the extent that they form a basis for making specific generalizations about one's career identity (Gysbers, 1969). One of the foremost tasks of the organizing stage is reality testing of a self-concept. Students begin to validate their perceptions of their personal attributes against an external reality. They can then effectively determine what career options are available to them.

Turning to an examination of the research regarding sex differences in general self-concept, a very early study (Smith, 1939) produced dramatic findings indicating that as age increases, boys exhibit a progressively higher opinion of boys. Girls also progressively devalue their own sex while boys have increasingly higher opinions of their own sex. This suggests that the sexual identification process produces a self-esteem deficit for girls.

More recent data which were analyzed for adolescent boys and girls separately in order to evaluate sex differences in self-concepts have yielded somewhat ambiguous findings. Bledsoe (1964) reported higher self-ratings for girls than for boys. Other findings indicated that junior high girls perceive themselves to be less active than boys. Girls feel themselves to be more competent in social skills and interpersonal areas while boys are more sports-minded (Wiggins, 1973). Many researchers (Lipsitt, 1958; Piers and Harris, 1964; Coopersmith, 1959) have found no differences in generalized self-concept.

Bohan (1973) concluded that both age and sex comparisons reveal lower self-concept scores for tenth grade girls than for any comparison group. This finding corresponds with Katz and Zigler's (1967) study indicating a lower self-concept for adolescents than for children of younger ages.

The implications cited in Bohan's (1973) study seem relevant to identifying facilitators and inhibitors of the female self-concept. Adolescent years involve a re-evaluation of self, and it may be that adolescent girls find themselves wanting in relation to the ideals they hold. As a girl grows, she comes to recognize that the role she is expected to assume as a female is relatively inferior in prestige and status to the male role. Although the findings are conflicting, it appears that the traditional stereotyped views of society take a toll on the development of self-concept and self-esteem in females. In regard to career development, these findings tie in to career decision making and self-direction in making choices, the focus of the next section.

Sense of Agency

One of the tasks identified by the Career Development Curriculum (CDC) for grades 7-9 is Acquiring a Sense of Independence. Tiedeman and O'Hara (1963) referred to this concept as sense of agency. It involves control over one's own life, including the ability to plan career options. Miller and Form (1968) have stated that during this stage a student's range of activities increases and dependence on the home is weakened. It is at this stage that the individual spends the abundance of her/his energy in trying to establish independence. With less dependence on adult guidance and control, students must learn to cope with their environment by making decisions such as how to proceed in life's tasks.

Matthews and Tiedeman (1964) found that girls who had expressed strong vocational goals in junior high had shifted to marriage goals in senior high, although the more recent study by Rand and Miller (1972) suggested that a new cultural imperative for females is being expressed in the options perceived by girls in junior and senior high school--that of the dual role of career and marriage. Other studies have cited girls' lack of vocational goals and planning (Lewis, 1975; Zytowski, 1969). More recent studies, such as the follow-up study on PROJECT TALENT's population, reveal girls as showing more concern for career planning and wanting more control over their own lives (Flanagan and Jung, 1971).

Horner (1970) has suggested that during mid-adolescence a limiting factor is introduced into the planning behavior of girls. They begin to receive messages that competence and an emphasis on achievement may reduce a girl's eligibility for heterosexual relationships. Veroff (1969) also states that girls seem to be more dependent on praise and support from others rather than on an internalized standard of excellence.

In an important study involving 1,577 boys and girls, Rapoza and Blocher (1976) found that there are no significant differences between girls and boys in their self-perceived ability to succeed in school, their results indicating that girls were as positive as boys in their academic self-estimates. Girls and boys from grades 7-12 also tended not to vary in their estimates of academic ability. Results showed that boys value success in school less than girls and that academic values of both sexes decreased as grade level increased. The most interesting results of this study revealed that girls in the senior high years tended to place less emphasis on higher education plans than boys. Most notable was the difficulty encountered by twelfth grade girls in reporting their plans. Fourteen percent were unable to respond to the various items in any way, with an additional 8% unable to classify their plans. Nearly one in four of the girls was unable to report an educational or vocational plan.

Another related concept is locus of control. The development of this sense of independence to make decisions is affected by a person's own perceptions of whether or not s/he can personally control her/his environment. People can be internally motivated to make their own choices or they can yield to external cues and pressures in controlling the events in their lives. Studies involving differences in field dependence are directly related to this sense of agency or control.

Field-dependent invididuals attend more to cues from the field or their environment and feel they are controlled by these cues whereas field-independent people feel they have an internal locus of control. Asche (1974) found that there are differences in the way that male and female student implement occupational choices, with the females appearing to be more field dependent.

Lockheed (1976) performed a study involving ninth, tenth, and eleventh grade students who were recruited through their schools and screened for cognitive style and verbal ability. The students were stratified into a field-independent group, a field-dependent group, and a middle group. Unacquainted subjects were then placed in groups where they played a decision-making game. This game involved a group decision about getting a token through a maze. The discussions of the group were videotaped and then coded for the amount of task-oriented verbal behavior and the amount of influence exhibited by each group member.

The study revealed that girls and boys in the field-independent groups interacted in an equal manner, but groups of field-dependent students were dominated by males. The implications drawn from these results seem to indicate that field-dependent girls are unlikely to believe they are as capable as boys at new tasks and will, therefore, be unlikely to try them. Field-dependent boys may be unwilling to be supervised by a female in later occupational settings. Interventions were suggested that involve providing field-dependent girls with the opportunity to demonstrate their competence in front of males before mixed-sex groupings are encountered. These interventions provide important suggestions for the implementation of career development activities.

A study by Tangri (1972) showed that females who choose non-traditional careers are more autonomous, individualistic, and motivated by internally imposed demands to perform to capacity. In other words, these "role innovators" had acquired an internal locus of control.

Thomas (1974) found that ninth grade boys place a higher value on power and independence than do girls of the same age. The girls were more concerned with interpersonal skills. In most of the literature on American society, qualities attributed to boys deal more with responsibility, resourcefulness, ingenuity and persistence. Girls are portrayed as being dependent on others, taking an inactive role.

In summary, students in grades 7-12 who have an external locus of control orientation do not feel they are as capable of mastering new tasks. The trends indicate that it is more acceptable for boys to exhibit a sense of agency, thus leading to field independence. The traditional view of females as being inactive and dependent appears to be one of the inhibitors in the capacity of adolescent girls to develop a sense of agency or internal locus of control.

Achievement Motivation/Aspirations

Achievement motives and behaviors have been especially significant in modern industrial societies where observable success in paid work ranks high on value hierarchies. In the American culture one's work is a crucial aspect of personal identity and self-esteem. Because most of the achievement motivation studies have been on males and it is only recently that the research literature has begun to focus on the achievement motivation and career development of females, this is largely an unexplored area of knowledge. In order to understand the individual psychological processes of both male and female students in grades 7-12, motivation toward achievement as well as occupational aspirations must be considered. The relationship between aspiration and expectation is another important variable, particularly the impact of early parental and teacher expectations on later aspirations and choices.

In looking at career management tasks, the Career Development Curriculum (Tennyson et al., 1975) postulated that during the years from seventh to ninth grades, the student's "sense of self asserts itself." This period presents many opportunities for clarifying the aspects of the self, one part of which is aspirations. The senior high level consists of tasks that demand the expansion and refinement of tasks of earlier levels. At this stage students must make tentative decisions about occupational aspirations and plan for their training accordingly. It appears, then, that aspirations are important aspects of both developmental stages, but that they are particularly relevant to grades 10 through 12 when decisions for post-high plans are imminent.

McClelland (1961) was one of the first investigators to do empirical research on achievement motivation. The remarkable thing is that these studies focused almost exclusively on males. This forced early researchers to extrapolate from findings based on males in order to explain achievement motivation in females. Among questions to be answered are: Are there differences in achievement motivation according to sex? And if differences do exist, how can the differences be accounted for? Does "fear of success" as part of achievement motivation exist

in adolescent girls and boys? How does it manifest itself? In relation to the goals of Project BORN FREE, what are the implications for career development of both sexes? What are the facilitators and/or inhibitors of achievement motivation during adolescence?

Traditionally, most scientific research has involved all male subjects or reported no identification of gender of subjects (Carlson and Carlson, 1960). However, problems arise when generalizations are made from unspecified samples to other populations such as women (Maccoby and Jacklin, 1974). Eleanor Maccoby has been involved in research on sex differences for many years (Maccoby, 1966; Maccoby and Jacklin, 1974) and has identified some important issues. She and Jacklin (1974) classified research involving sex differences into three areas: (1) unfounded beliefs about sex differences, (2) sex differences that are fairly well established, and (3) open questions where little evidence has accumulated or the findings were ambiguous. Achievement motivation falls into the last category.

A major problem in achievement motivation research has been that relevant terms are defined in various ways, making conceptual clarity almost impossible. Different methodological approaches, ranging from empirical scales and projective instruments to experimental task performance, raise the issue of whether the same construct is being measured (Nelson, 1976). The existing research on fear of success, for example, makes no claims regarding the use of fear of success as a predictor to understand behavior in real-life situations. Maccoby and Jacklin (1974) conclude that the "work on the fear of success is new, and the results are not consistent" (p. 40).

In a recent review of 100 studies regarding this construct, Tresemer (1976) concluded that (1) females do not show more "fear of success" imagery than males, (2) males do not respond to a cue depicting an achieving female with more "fear of success" than do females, (3) there are few correlates of fear of success, and (4) there is an unclear relationship between "fear of success" imagery and performance in different situations, such as female achievement in competition with males. The conceptual clarity of "fear of success" and its "relatives" has also been criticized by Shauer (1976). With this framework as background, it is interesting to examine existing research on achievement motivation and aspirations of junior and senior high school students.

In a study of 300 junior high school students, Ellis (1968) found that girls in general had a more positive attitude toward school and received higher grades than boys. In this same study, girls achieved higher in studies related to language arts. These results held firm across grade level and regardless of whether the groups were mixed sex or same sex. Are these findings meant to indicate that junior high females are more motivated to achieve academically than junior high males?

As noted earlier, Rapoza and Blocher (1976) found that young adolescent girls feel at liberty to compete and achieve in educational activities. When mid-adolescence arrives this pattern shows an abrupt change as girls receive messages that achieving is unacceptable, particularly to their male peers.

The U.S. Department of Health, Education and Welfare performed a study in several Wisconsin high schools that adds clarification (Ponzo, 1973). The relationship between sex-role identity and academic achievement was investigated, using freshmen and seniors from nine rural high schools. The results indicated that these students viewed appropriate male and female behaviors along traditional lines. In other words, masculinity was perceived as being rugged and unemotional whereas the warm, understanding female characterized feminity. The most interesting finding was that boys tended to experience decreased academic success when accompanied by a more traditional sex-role identity. However, girls did better academically when they held more traditional sex-role identities. Ponzo concluded that schools support the traditional feminine roles. Boys do not do well in academia because in attempting to be masculine they rebel against school norms, whereas females tend to conform to them.

Harp (1976) attempted to discover factors associated with the level of aspiration of high school students to attend college. Several independent variables were used, including social class, size of high school, education of parents, residential background and sex. All of these variables were found to be related to college attendance, but the relative importance of each of the variables was different between boys and girls. The findings revealed that a higher proportion of girls than boys aspired to a college education; however, they had lower rates of college attendance than boys. Mother's education was more useful as a predictive factor for girls. Boys were influenced to a lesser degree by high school curriculum, whereas girls' college attandance varied greatly with the curriculum. Harp (1976) concluded that boys may be much more responsive to influences aimed at career orientation. If females have high aspirations to attend college, but do not, how can this be explained? Looking at sex differences in occupational aspirations provides a clue. Veroff (1969) suggested that junior high girls actually choose non-traditional college-related goals, but they change in high school to more stereotyped choices.

In an extensive study of a nationally representative sample of approximately 32,000 eighth, ninth, and eleventh graders in over 200 schools, Prediger, Roth and Noeth (1974) found dramatic differences between female and male preferences for work. Over half of the eleventh grade girls chose occupations in only three of the possible 25 families of jobs. The three were clerical and secretarial work, education and social services, and nursing and human care. Only 7% of the boys preferred occupations in these areas. However, the boys' choices were just as stereotyped, with nearly half falling in the technologies and trades job clusters, with 7% of the girls' choices in that same area. It is obvious that the range of occupations perceived by both girls and boys is narrow and that both express preferences for occupational areas that are highly stereotypic.

Barnett (1975) asked 1,531 males and 988 females between the ages of 9 and 18 to complete a questionnaire regarding preferences, aversions, and occupational prestige. A correlational analysis indicated that at every age, the correlation between preference and prestige was higher for males than for females, and the strength of this relationship increased with age. For females, preference and prestige were not related. In fact, for females prestigious occupations and aversion were positively correlated, a result not found for the males. The author concluded that for various reasons, girls learn to avoid prestigious occupations and males learn to prefer them.

In another study (Bogue, 1976), high school seniors of both sexes were asked open-ended questions about their occupational ideal and their actual occupational path. The discrepancies between these two statements were then analyzed for each of the subjects. Almost half of all females revealed discrepancies whereas only about one-third of the males did so. The investigators suggest two reasons for this finding. First, family and community expectations and the general socialization process may depress girls' aspiration levels. Secondly, girls may be keenly aware of societal barriers to prestigious occupational status for women.

Simpson (1974) found that both males and females attribute more prestige to both men and women who conform to sex-role stereotypes. However, prestige attributed to men varied more than prestige attributed to women with regard to conformity to traditional roles. The author speculated that social norms concerning appropriate occupations may apply more strongly to men because occupation is a central component of male sex-role images.

Other work values of female and male high school students differ. Stein and Smithells (1969) required subjects to classify activities as either more masculine or more feminine. Artistic, social skills and reading were considered feminine; and athletics, spatial and mechanical skills, and arithmetic were perceived as masculine. The significant finding was that the older subjects made more extreme ratings. Boys' ratings for reading showed marked changes with age as did girls' ratings for athletics and arithmetic. This may suggest that students learn what is inappropriate for one's sex rather than what is appropriate. Thomas (1974) has also discovered that ninth grade girls value occupations of social service whereas boys of the same age value salary and prestige. The females also value altruism and creativity more than males, who value power and independence.

Feshback (1974) has pointed out that personality and intellectual factors associated with the traditional female sex role are incompatible with high levels of success. For example, traits such as passivity, compliance, submissiveness, docility, and non-competitiveness are traditionally more descriptive of females than males. Feshback has further postulated that in pre-adolescence and adolescence, when the peer group takes on monumental importance, girls interpret the code of adolescence as being very non-supportive of the intellectual and vocationally striving female. High grades are permitted because they fit with the stereotyped expectations; however, competence in such subjects as chemistry or physics is taboo. The high school girl's experience is a dramatic conflict between popularity in the peer group and achievement.

In conclusion, it appears that girls learn from the socialization process how not to behave. Definite differences do exist between the sexes regarding aspirations toward occupational careers. If girls have desires to pursue more prestigious occupations, the trend indicates that these aspirations are typically not translated into a behavioral component. While females may do well in school and aspire to post-high-school education, many do not end up attending college. Adolescent girls seem to avoid aspiring to prestigious occupations, whereas males appear to aspire to them. The reasons for these differences probably lie somewhere within the socialization process.

PART III: CAREER INFORMATION PROCESSING

An examination of the literature reveals numerous studies which address the issues of career sex-role stereotypes in the junior and senior high school years related to information seeking and processing. That stereotypes do limit the range of options students will consider and affect the ways they deal with career information they have seems evident. One of the ways in which the stereotypes limit options is in the way in which girls and boys sex-type occupations and subjects, consider a limited range of options, and internalize information about what is appropriate or inappropriate behavior and choice for one sex or the other.

In the areas of career awareness, information processing, and career planning, these inhibiting forces are readily apparent. The effects of sex-role stereotyping can be discerned readily in the differences that exist between girls and boys in these areas.

In a study done more than a decade ago Douvan and Adelson (1966) examined these differences, postulating that career-planning patterns for boys would be significantly different from those patterns for girls. Because of the importance of their findings, and the relevance of their results to Project BORN FREE, a detailed description follows.

Utilizing lists of secondary schools in the nation, Douvan and Adelson obtained representative random samples of adolescents. Their interviewers used a standard questionnaire format in their sessions with 1,045 boys from grades 7 through 12 and 1,925 girls in grades 6 through 12.

To explore the students' conceptions of future time and adulthood, the authors used two general types of questions in their interviews. One type consisted of direct questions about future plans and expectations of the boys and girls within the realistic context of the adolescents' world. The second set of questions attempted to gain insight into the less-formulated intellectual aspects of students' images of the future. Questions were asked about daydreams, admirable adults, most wonderful imaginable event, and worst imaginable event in the students' lives. These questions were designed to approach the subjects' future concept in a context of fantasy rather than asking them to discuss their futures realistically.

Boys' Career Plans and Future Expectations

Results of Douvan and Adelson's study (1966) demonstrate a clear cultural disposition for boys to choose and prepare for career roles. Responses to a general discussion question about future decisions indicated that 86% of the boys were considering a direct vocational decision or a decision about the armed services and draft.

Another conclusion drawn by the authors is in reference to the boys' concreteness and realistic quality of their plans for the future. The authors viewed the boys as actively engaged in and concerned with career planning and career decisions. They also noted a relationship between age and realistic

planning, finding older boys more realistic in their career attitudes and expectations. The choice of glamour occupations decreased with age (from 77% at 14 to 4% at 15 and 17% at 16), while the range of jobs chosen increased with age (27 occupations chosen by 14-year-olds, 34 by 15-year-olds, and 44 by 16-year-olds) (Douvan and Adelson, 1966). Older boys reported they were fairly sure to continue in their present occupational choices (65% at 16, 57% at 15 and 48% at 14), and had more detailed and specific conceptions of the preparation required by the jobs of their choice (32% of the 16-year-olds gave descriptions of preparatory steps judged by coders to be "accurate and detailed," compared with 19% of the 15-year-olds and 14% of the 14-year-old group).

The results of other studies support Douvan and Adelson's conclusions in regard to boys being more realistic in their career planning. Flanagan and Jung (1971), in their ten-year national follow-up study of PROJECT TALENT, which used a random sample of eleventh grade students, concluded that boys were more realistic than girls in their career planning. Using information about their own abilities and potentialities, as well as participating in discussions with their counselors, the boys' occupational choices were more realistic than the girls' choices.

Consistent with these findings are the results of Jones (1966). Jones investigated the relationship between the vocational outlook of high school students and the type of high school programs in which they were involved. The sample included 202 males and 171 females who were educable mentally handicapped and ranged in age from 13 to 21. Subject samples were drawn from 13 high schools in Illinois which operated two or more special classes during the 1965-66 school year. With the use of a "Could you ever..." scale, a group test was constructed. A list of vocationally oriented occupations and skills was selected and submitted to five graduate fellows in the Institute for Research on Exceptional Children at the University of Illinois. These graduate fellows had served as special class teachers at the Institute. The graduate fellows were asked to indicate individual items that they believed could be achieved by 90% of the educable mentally handicapped at some time during their lives. Items were designated as "appropriate" when at least four out of five of the raters agreed that these skills could possibly be obtained by the educable mentally handicapped and "inappropriate" when none of the raters felt the skills could be obtained. Jones found females less appropriate in their vocational outlook than males and found males more appropriate in their vocational outlook for community placement. Also, consistent with the developmental nature of the CDC conceptual model, as students' age increased, inappropriate responses on vocational outlook decreased.

Boys' Fantasy Conceptions

Douvan and Adelson (1966) noted two dominant themes in the investigation of their results from the boys' group. Achievement strivings and a strong and active reality orientation dominated the boys' thoughts for future career choices. The authors also examined the subjects to see if their fantasies supported the direct self-reports already mentioned. In general, they found the same themes in the boys' fantasies as were found in their reported career aspirations. The boys' fantasies focused on work and personal satisfaction derived from contributing to a work group.

Thirty-seven percent of the sample said they felt important and useful when they achieved something through their own skill. Thirty percent gained this sense of self-worth from assuming adult-like roles--either in a job or at home.

The worries of the boys also centered on work and achievement: they worried about doing well in school, about passing and graduating and about going to college. Sixty percent of the boys mentioned one of these concerns and 29% worried about reality pressures on themselves or their families.

Girls' Career Plans and Future Expectations

Douvan and Adelson (1966) found striking differences between the boys and girls in the areas of career awareness and planning. They found that the girls were less realistic than the boys in their career plans, as suggested by the ambiguities and inconsistencies which appeared in the girls' educational plans.

In general, the authors found the girls' educational aspirations almost as high as their male counterparts, with 97% of the 14- to 16-year-old girls planning to finish high school, and 60% intending to seek additional training. A smaller proportion of girls than boys planned to go to college (34% compared with 46%). But the plans to go to college, even within this group, are more vague in regard to specific purposes or reasons for college attendance. Four percent of the girls reported an interest in teacher training in college but the remaining 30% mentioned no specific areas or fields of interest for college attendance. This sharply contrasts with the boys' college plans, which frequently included plans for a particular content training.

Rand and Miller (1972) examined the educational aspirations of a random sample of 180 girls, 60 girls each from the junior high, senior high and college levels. Their results show a developmental decrease in level of interest in going to college. In the junior high years, over 95% of the girls in the study reported interest in and plans for going to college. By eleventh grade, the percentage had dropped to 75, and in the twelfth grade, only 60% reported interest and plans for college. Authors of this study attributed these results to increased reality testing.

Subjects in this study were also asked to indicate what they felt would be the most important reason for going to college. At each level, the reason chosen most often was "to prepare for a specific occupation" (p. 320).

The subjects' perceptions of why their parents wanted them to attend college are in direct contrast to their own reasons for attendance. At all three levels, girls perceived their parents' reasons for wanting them to go to college to "increase chances of good career" (Rand and Miller, 1972, p. 320). The authors suggest this discrepancy as indicating that the girls thought in more specific career choices for themselves but perceived of their parents' wishes in more general terms.

A strong desire to work was indicated by the junior high, senior high and college women, with 95% of them planning to work after completion of their education. It is interesting to note, however, the strength of the cultural imperative of sex-stereotyped careers. At all three levels, "teacher" was the

most popular occupational choice. A developmental trend appeared in the popularity of this choice, with an increase in popularity as age increased. From this study, it appears that women become more fully aware of their stereotypic career sex roles as they get older.

Prediger, Roth and Noeth (1974) found similar results in their nationwide investigation of American youth. Approximately 32,000 eighth, ninth, and eleventh graders in 200 schools participated in this study. The authors found striking differences between the males and females in their response indications of occupational preference. As cited earlier, over half of the eleventh grade girls chose occupations falling in only three of the 25 occupational families: clerical and secretarial work, education and social services, and nursing and human care. In contrast, only 7% of the boys preferred occupations in these areas. Nearly half of the boys' choices fell in the technologies and trades cluster of job families, while only 7% of the girls indicated preference in this area. Results for eighth, ninth and eleventh graders were found to be essentially the same.

Proshansky and Smith (1967), in an effort to discover the influence of sex, social class, race and intelligence on the development of work orientation, gave open-ended questionnaires to 1,254 teenagers from the Detroit and New York areas. The subjects were from eighth, ninth, and twelfth grades, 52% male and 48% female. Proshansky and Smith also used rating scales, high school records, and ratings by teachers to provide data. In responding to one particular item--"If you could do anything at all, what would you do for a living?--seven in ten males as opposed to five in ten females desired professional-level occupations. About three in ten girls expected to be housewives after about ten years, but only 27% mentioned this as a desired occupation. Unfortunately, the authors failed to see the implications of these discrepant results, stating that they felt girls needed help in developing their sex role, help in integrating the pressures toward images of wife, mother, and productive citizen. It thus becomes apparent that Proshansky and Smith envision a singularity of role for women.

In the Douvan and Adelson study (1966), it was also apparent that the girls' educational and career plans revealed a lack of coherence, a result not found in the boys' plans. Over one-third of the girls planning to attend college had vocational aspirations for which college would overprepare them. These results point to a central theme that although the girls' plans for the future did focus on work and schooling, very few of the girls demonstrated a strong vested interest in work or school.

Consistent with Douvan and Adelson's findings, Hawley (1976) suggests that one possible reason for girls to be less realistic in their career planning than their male counterparts might be that work has a lower priority for girls.

Tyler (1964) has postulated that whereas girls tend to be precocious in social development, they tend to lag behind boys in vocational development, especially at the college level.

Girls' Marriage Plans

Douvan and Adelson (1966) found marriage was a major goal for girls; 96% of all girls from 11 to 18 years of age, in response to a direct question, indicated they wanted to marry.

Rand and Miller (1972) found similar results. Subjects were asked to indicate their desires and expectations toward marriage. A perfect relationship was found to exist between the girls' desires and expectations for marriage, with 95% of all subjects wanting and expecting to marry.

Ginzberg (1966) documented an important difference in the career choice process for women and men. He noted that for women, financial status and freedom to continue their education would be partially determined by their husbands' careers and their husbands' attitudes toward educated and working women. He attributed this great uncertainty in planning to being probably the major difference between sexes in their career development and planning.

Life Plans

In the Rand and Miller study (1972), the women were questioned as to their life plans. Life plans were largely defined in terms of the degree of work involvement the women in this study anticipated in their lives, especially within marriage. Findings indicated the women at all three levels had very similar life plans. The most popular choice was "to work most of the time, combining a career, marriage and motherhood" (Rand and Miller, 1972, p. 326), with 25%-35% of each group making this choice.

Authors also questioned the women about their attitudes toward working wives. While approximately two-thirds of the women felt that working wives were admired by others, almost the same proportion considered working mothers as being bad for children. This apparent discrepancy does suggest the home-career conflict discussed by Farmer (1971). She attributes this conflict to being the product of cultural lag between economic realities and technological advances on the one hand and the advice offered by society on the other.

An important goal of Project BORN FREE is the multiplier effect of consciousness raising to the whole area of career sex-role stereotyping. Perhaps the Project can begin to help society more adequately integrate into its advice the economic and technological advances referred to by Farmer (1971).

Girls' Fantasy Conceptions

The girls in the Douvan and Adelson study (1966) showed considerably less coherence between reality and fantasy than the boys did, shifting dramatically away from the reality areas of jobs and education and altogether omitting the strong achievement striving which would support their plans for work. The results showed girls worrying about achievement much less than boys: 17% of the girls compared with 57% of the boys listed this as a serious concern.

The themes that dominated the girls' fantasies were femininity, personal attractiveness, and popularity. The qualities girls admired in their "ideal adults" stressed traditionally defined "feminine" qualities. Seventy-six percent of the girls in the 14-to-16-year-old group admired ideal adults for personal qualities like kindness, understanding, generosity, and thoughtfulness (compared with 34% of the boys). The authors felt the girls' self-esteem was anchored to interpersonal relations more often than to achievement or work skills. Seventy-three percent of the 14-to-16-year-old girls worried about acceptance by peers (particularly popularity with boys), compared with 29% of the boys naming acceptance by peers as a major concern. Issues of personal attractiveness concerned 62% of the girls, while no boys indicated this a source of worry. The ways in which girls wished to change themselves reflected this preoccupation: 59% of the girls wanted to change some aspect of their physical appearance (compared with 27% of the boys), and over one-third wished for greater skill in social situations (compared with 20% of the boys' group desiring greater social skills).

Several generalizations can be noted from these studies. To begin with, boys appeared more directly concerned with internal problems during adolescence and made efforts to define and attain individual goal choices. In addition, they were concerned with the development of internal controls and standards. The emphasis with the boys would seem to be on individual internalized goals and norms which would be fulfilled through personal striving and achievement.

In contrast, generalizations about the girls portrayed them as sensitized to interpersonal relationships. Individual goal choices would be influenced by opinions of others and adjusted to meet the demands and judgments of important people. Acceptance of self-worth would largely be determined by the level of acceptance by peers.

Instrumental Competence vs. Expressive Competence

Baumrind (1972) has examined the differences between boys and girls in information processing and career awareness. She states that sex-role stereotyping assigns instrumental competence to males and expressive competence--in other words, instrumental incompetence--to females. Instrumental incompetence is defined by Baumrind as behavior that is socially responsible, friendly to peers and cooperative to legitimate authority. The author suggests socialization strategies should encourage the development of instrumental competence in females as well as males, stressing individual abilities to express individuality and independence.

Concern with Social Success and Social Status

Frazer and Sadker, in their book Sexism in School and Society (1973), state that "being successfully male means winning in physical combat, whereas being successfully female means attractively and enthusiastically supporting men in their achievements" (p. 124). They point out that the high school woman spends an inordinate amount of time worrying about physical attractiveness and popularity, being concerned with social success. Accenting her physical attractiveness, the young woman learns to consider herself as a commodity, playing down her intelligence and muting high academic abilities so as not to frighten away "any potential buyers" (Frazer & Sadker, 1973, p. 125).

If it is true that females, in general, need approval and acceptance by others in order to feel good about themselves, then the need to be socially successful would be a very strong motivating force.

The literature does seem to support the adolescent females' need to be socially successful. In a national interview survey sample of adolescents taken in 1966 and reported by Sexton (1969), 65% of the boys and only 21% of the girls worried most about achievement, while 16% of the boys and 44% of the girls worried most about acceptance by others. Responses to a question concerning personal characteristics showed 62% of the girls and only 19% of the boys worrying most about personal characteristics. The Sexton study thus seems to support the theme of girls' concern with social success as well as the theme of boys' need for personal achievement.

The Douvan and Adelson study (1966) also revealed a desire for social status in girls' reported career choices. They found that although somewhat fewer girls than boys aspired to professional jobs (30% for girls compared with 40% for boys), practically all girls wanted middle-class jobs of one sort or another. Thirty-seven percent of the girls chose semiprofessional work roles like nurse and airline attendant, and 39% wanted white-collar clerical careers. Very few girls wanted to work in the manual or service fields (27% of the girls picked such jobs, compared with 29% of boys, excluding those boys who wanted to be farmers). Other findings indicated that the girls' occupational aspirations revealed a general desire to achieve eminence or outstanding skill in a profession; that is, the status rewards of the job were more crucial than intrinsic work satisfactions.

Hawley (1976) conducted a study with a random sample of over 17% of tenth, eleventh, and twelfth grade girls in a large school district in a southern California city. The sampling was based on the ethnic distribution of 13 high schools. Using questionnaires and direct personal interviews, Hawley observed a strong need on the part of girls to establish a relationship with a male. She states:

> The social necessity to "have a man" was so compelling that many girls would endure physical abuse rather than go "manless." As a source of feelings of self-worth, the presence of a male was clearly more valuable to their self-concept than any other measure of accomplishment (p. 4).

Discrepant Information Processing

In a published article, Burlin (1976) elaborates on the results of a study she completed using 139 female eleventh graders from a suburban high school located in the Syracuse, New York, metropolitan area. She administered a questionnaire devised to obtain information about the participants' choice of an ideal and real occupation. The subjects were primarily from white middle- and upper-middle-class families. Many of the students' parents were employed in the professional, semiprofessional and managerial occupations. In the first part of the questionnaire, the young women were asked to name the occupation they would want to pursue if they lived in a society in which they had unlimited possibilities for job choice and in which they were free to pursue the occupation

they wanted. The second part of the questionnaire requested that participants name the occupation that they thought they would actually pursue given the realities of our society. The third and fourth sections of the instrument asked participants who had chosen different occupations for their first and second questions (i.e., their "ideal" and "real" choices) for the reasons they believed contributed to the differences. Using a Bureau of Census report (U.S. Department of Commerce, 1973) as the criterion for classifying occupational proportions, the investigator categorized responses as innovative (occupations including fewer than 30% women), moderate (occupations including 30% to 50% women) or traditional (occupations that include more than 50% women).

The results of this study are startling. These high school juniors made significantly different selections of occupation in their real than in their ideal occupational choices, significant at the .005 level. Innovative occupations were more often ideal (51%) than real choices (32%), and, conversely, the subjects chose traditional occupations much less often for their ideal occupational aspiration (29%) than for their real occupational aspiration (56%).

Burlin, in an attempt to obtain further clarification of factors influencing the discrepancy between ideal and real choices, conducted interviews with 25 students who had moved from the choice of an innovative ideal occupation to the choice of a traditional real occupation. More than one-half of those interviewed attributed the discrepancy to sex-role influences (the specific item on the questionnaire was "inappropriate occupation for a female").

Fear of Social Rejection

Another important finding of Burlin is concerned with the concept of fear of social rejection and is concistent with Bardwick, Douvan, Horner, and Guttman's (1970) findings that affiliative concerns frequently accounted for fear of success imagery. Burlin noted that social constraints were mentioned in approximately one-third of the interviews as reason for the discrepancy between ideal and real occupational choices.

In this study it is important to note that although a majority of the young women were aware of a broad range of occupations (choosing innovative occupations as ideal choices), they did not feel free to pursue these choices due to the existence of environmental restriction cues (discrepancy between ideal and real choices).

Consistent with Burlin's findings regarding fear of social rejection, Drabick and Matthews (1975) analyzed questionnaire results given for entering selected occupations from a sample of 985 white and black North Carolina high school seniors (271 white males, 315 white females, 167 black males and 232 black females). Subjects' responses were grouped into four categories--general interest, reward (material gains), altruism, and other (a residual category). They found that females chose occupations for altruistic reasons almost four times more than males and that the black female was more altruistic than any other group. More male than female students, but approximately the same percentages of black and white students, gave "reward" as a reason for entering the expected occupations. Drabick and Matthews conclude that there are significant differences between reasons guiding white and black students and males and females into their expected occupations.

The literature does indeed seem to indicate that differences exist between boys and girls in their information processing. Motivating forces also appear to be different for boys in contrast to girls. Boys appear to be motivated, at a relatively early age, to strive for personal achievement. This achievement seems to receive gratification through work and a work-role orientation. On the other hand, a central theme for girls is a concern with social success and status and a fear of social rejection. It thus becomes evident that boys, in general, appear to define themselves by individual standards, whereas girls seek role definition through others' approval.

Implications

What, then, does the literature on career information processing seem to say in relation to the goals of Project BORN FREE?

It is apparent that the nature of information processing for girls and boys is different. Boys generally have been found to be more realistic in their career planning and awareness than their female counterparts.

In their fantasy conceptualizations, boys' career aspirations play a dominant role. Boys worry about work, getting good grades, graduating, etc. They seem to be much more likely to define themselves in terms of personal achievement through work.

Girls appear less realistic in their career planning awareness. Although studies have shown that they plan and desire to work, their choices of career options are not consistent with the required training and/or educational background. Several authors have attributed these inconsistencies in planning to girls' overall concern with marriage. If marriage is a major reported goal for girls, then girls are somewhat limited in long-term planning due to the need for consideration of their future husbands and families. If they still perceive themselves in a stereotypic Cinderella role, waiting for Prince Charming to come along and take care of them the rest of their lives, they will probably not see a need for planning or for seeking career information. Their career planning is more likely to be contingency planning, depending on marriage goals.

Another influencing factor that the literature seems to suggest, in reference to girls' career planning, is their concern with social success and status. Conversely, this concern with social success can lead to a fear of social rejection. The impact and strength of these concerns is evident in the discrepancies that exist between girls' reported real and ideal career options.

Some very important goals for Project BORN FREE should be to address these issues of the existing differences between boys and girls in their career planning and awareness. Helping boys to include social-skills development in their career development processes seems vital. Emphasizing girls' individual abilities and individual reference standards also seems essential. Boys need to realize the importance of their other needs, besides the need for personal achievement through work. The failure historically of schools to help boys consider other facets of themselves is evident in the loss of self-esteem and identity that commonly occurs when men retire. Since the mainstay of their lives has been defined through their work, their very existence is threatened when work is removed from their lives.

Girls have different needs in their career development and personal development processes. They need to be encouraged to work independently, to trust their individual decisions, to develop more fully an internal individual standard of excellence. Through development of these skills, girls will be more likely to adequately realize their full potentials, have multiple role options, and have more personally rewarding life careers.

PART IV: INFLUENCERS OF CAREER DEVELOPMENT

This review is concerned with the career development and socialization of secondary school students, and this section focuses on the significant forces in the lives of young persons which have an effect upon their sex-role socialization and, therefore, upon the extent to which sex-role stereotyping is a factor in their career development.

If one assumes a broad perspective, a strong case can be made for the effects, either explicit or implicit, which a wide range of forces has upon the development of young persons. Genetics, family history, birth order, aspirations, temperament, motivations, cultural forces, socioeconomic status, parents, siblings, peers, the media, religion, educational institutions--the dynamic interplay of these and other forces (influencers) provides the template upon which the person's past is validated or opened to question, the present is defined, and the future is planned for or predicted.

In this review, however, four categories of influencers, three rather specific and one more general in nature, seem to address themselves most directly to the issues under investigation: the sex-role socialization and career development of secondary school students. These four categories, (1) parents, (2) teachers, (3) counselors and (4) schools in general, will be discussed in this section.

Peer Influence

Two additional sources of influence, peers and media, deserve special mention, however, before the four categories are addressed. It has been clear for quite some time that the identification of, building relationships with, and being influenced by one's peer group are crucial tasks/themes of adolescence. For adolescents, whose all-encompassing life task is the development, refinement, and integration of a sense of identity, the social arena, largely defined by peers, is often the locus of the identification process. White (1966) described the importance of "social interaction as the chief means whereby one builds up a sense of self. We learn about ourselves from others" (p. 362).

Virtually every adolescent psychology text discusses at some length the important impact of an adolescent's peer culture. Some observers, such as Coleman (1961), go so far as to say that high-school-age students are a society unto themselves, a society "that has most of its important interactions within itself, and maintains only a few threads of connection with the outside adult society" (p. 3). Kandel and Lesser (1972), however, report that "there appears to be much less confict between the two generations than has been suggested by Coleman and other investigators" (p. 112). The crucial issue, however, is that peers, whether directly or indirectly, have significant effects upon adolescents. While the effects of the four types of influencers mentioned above are more germane to BORN FREE's focus on sex-role socialization and career development, with parents, teachers, counselors and the school itself as target populations, peers are cited here as an extremely important general influencing force. Their impact is neither underestimated nor ignored but not the focus of this project.

Media Influence

Likewise, much has been written about the significant impact of the media on children and youth, not to mention on all individuals. The media, and particularly television, have, in both positive and negative ways, an early and lasting effect on personal development. The popular film Network presented a chilling view of the power of television as a medium, and innumerable studies and articles have focused on specific issues, such as the connection between television violence and violent behavior (e.g., Hartnagel, Teenan, and McIntyre, 1975) and the general effects of television on the society at large (e.g., Cater and Adler, 1975). While there is widespread public concern about the impact of television programs and commercials on the values and attitudes of children and youth by such groups as Action for Children's Television--a concern which BORN FREE shares--the media are not the primary target of the project.

A specific goal of Project BORN FREE is the production of a series of color videotapes with messages of open, non-sex-stereotyped career development, each tape directed toward a specific theme or goal. This series is expected to be disseminated widely through broadcasts over public television. The impact of the media is clearly recognized to be strong and potentially instructive. The media, like the peer culture, are a fact of life in the ongoing growth and development of adolescents. Their effects, forceful and inevitable, must not be ignored; yet these effects, like those of secondary school students' peers, are considered in a general sense rather than as a major category of influence within the scope of this review. While some may argue that peers and television are more powerful influencers than parents, educators and schools, Project BORN FREE staff made a conscious decision to focus on the latter at this point in time.

What follows then, is a discussion of the four previously mentioned categories of influencers of the sex-role socialization and career development of secondary school students: (1) parents, (2) teachers, (3) counselors and (4) schools in general, the target influencers of Project BORN FREE.

Parental and Family Influence

In a whimsical section of his excellent essay, "The Connections of Adolescence," Cottle (1972) describes an early adolescent's view of parents: "Parents simply were. When time began, when consciousness awoke as it does with a sort of mythical hangover, parents were already there with everything settled. It is like moving into a new home. Parents put the place in shape, fix up your room, and when all arrangements have been completed they move you in" (p. 165).

All this is to say, of course, that parents are givens, and extremely important and influential givens, in the lives of their children. Even after the far greater dependency of their early years has long since passed, the ongoing influence of parents, combined with the background music of their impact in times past, exerts a significant force in the lives of junior- and senior-high-school-aged students.

Biller and Weiss (1970), extending the notion of the influence of the same-sex parents on children during the identification and general socialization process, wrote about girls' personality development as influenced by the

father-daughter relationship. Among other things, the paper addressed the direct effects of fathers on daughters (e.g., what behaviors and communications were directed at them) as well as important indirect effects on each daughter's development (e.g., the daughter's view of the father's interaction with her mother affords her first impressions of male-female relationships in general).

In a paper, Miller (1973) studied the effects of parental relationships upon high school girls' academic achievement (as measured by an average of high school grades) and aspirations for future achievement (as indicated by their stated educational and occupational expectations). In all, 949 girls from North Carolina responded to extensive questionnaires, and the highest overall achievement orientation was found among those girls whose mothers were loving and demanding and whose fathers were rejecting and casual. For the lowest-achievement-oriented girls, the parental attributes were reversed (i.e., mothers were rejecting and casual, and fathers were loving and demanding), indicating that an important element in the determination of the achievement orientation of young women is the combination of relationships which they have with both parents. Interestingly, in previous research which the authors conducted with boys, the highest achievement orientation was found for boys whose mothers and fathers were loving and demanding, whereas the lowest achievement orientation was for boys whose fathers were loving and demanding and whose mothers were rejecting and casual.

Drabick (1967) reported another study with North Carolina high school seniors (1,068 females and males from 23 different schools) in which the focus was the students' perceived sources of influence upon their occupational and educational expectations. While most students felt that their occupational choices ultimately were their own, they reported that their parents were the most important influencers in their choices. Teachers were seen as the most important extra-familial influencers regarding occupations. Educational choices, however, while also influenced by parents, were seen as influenced more strongly by mothers than by fathers. Males attributed more impact for these decisions to fathers and brothers than to mothers and sisters, and the reverse was true for female students. Females less frequently considered a peer as a source of influence than did males, tended somewhat more to consider their decisions to be their own, were considerably more apt to consider a relative to have been an influencer, and felt that their high school education had had a greater effect upon their choices than did males.

Soper's (1971) study of the factors influencing the post-high-school educational and vocational decisions of 955 Utah high school students yielded similar results. Although the results were not differentiated by sex, the parental and familial influence was found to be by far the greatest on the students in their planning and decision making. This primary influence was even more pronounced in rural areas than in cities or suburbs. Of all the student respondents to the extensive questionnaire, over 80% saw themselves or a member of their immediate family as the single greatest influencer of post-high-school plans.

A study by Follett, Hendel, and Klohs (1975) included a review of literature which found relationships between family background, particularly parents' occupations and level of education, and the occupational choices of the daughters and sons.

Finally, in a quite different vein, Wallston (1973) reviewed the literature concerning the effects of maternal employment on children. She cited several studies of attitudes which support the notion that employed mothers can serve as models for their daughters. Daughters of employed mothers tend more toward considering some combination of marriage, motherhood, and career than do daughters of non-employed mothers. The author felt that further studies should consider cultural attitudes toward maternal employment, the mother's "reference group" (i.e., do her female friends work, and how do they feel about it?), and the father's attitudes toward the issue of maternal employment. Overall the literature on the influence of parents and family seems to support the primacy of the family as influencers of career choices.

Teachers' Influence

The influence of teachers upon their students can hardly be overestimated at the secondary level. In most cases, they see their students on a daily basis and have the opportunity to interact with them in a variety of roles--teacher per se, adviser, counselor, knowledgeable adult, friend. Their very access to students for several hours per week could in itself signal their potential impact; their opportunities to consider specific subject areas, values, issues and a variety of personal concerns with their students increase this potential manyfold. Teachers, in the forefront of the lives of students day by day, are very much in a position to model behaviors and espouse values, to challenge outworn and hurtful societal practices such as sex discrimination and to accompany their students in the preparation and planning for an entire life. The crucial impact of teachers, then, is considered an extremely important facet of Project BORN FREE.

Three research studies and three essays are cited in this section. In one essay, Stage (1976) specifically addresses the issue of encouraging girls to study science in high school, rather than passively accept the status quo of boys concentrating in mathematics and science and girls concentrating in the humanities and social sciences. A specific program developed for this purpose (Smith, Stroup and Coffman, 1975) is described in a later section of this report. After beginning with a statement of stereotyped attributes of psychologically healthy boys and girls, Stage juxtaposed them with four major sex differences determined in Maccoby and Jacklin's (1974) seminal review. Science study in no way is precluded by these actual differences, and Stage urges a commitment to change from her fellow science teachers. Teachers in general were seen as highly influential in establishing egalitarian norms in the schools, beginning with becoming more conscious of their own behavior toward students and subgroups of students. Ernest (1976) also notes the effects of the sex-typing of mathematics and the resultant effects of "math avoidance" in high school girls. He cites a program funded by IBM in which female mathematicians visit high schools to encourage girls to continue with mathematics study and to talk with advisers and counselors about the importance of providing this reinforcement.

Good, Sikes, and Brophy (1973) conducted an experimental study in 16 seventh and eighth grade classrooms, the purpose of which was to investigate possible differences in the teaching behaviors of female and male teachers, especially with

regard to their possible differential treatment of female and male students. Eight mathematics and eight social studies classrooms, representing equal numbers of female and male teachers, were observed, and data were gathered by utilizing a version of the Brophy-Good Dyadic Interaction Scale. A statistical analysis of the data revealed certain differences in the classroom behavior of female and male teachers, but these differences were not related to the sex of the teacher. Teachers were shown primarily to react to different behaviors presented by boys and girls, with high-achieving boys receiving the most favorable teacher treatment and low-achieving boys receiving the least favorable treatment.

Ricks and Pyke (1973), by means of a 12-question structured interview, studied 30 female and 30 male secondary school teachers in Ontario. Possible differential treatment of students in the classroom was explored by determining teacher perceptions and attitudes about (1) sex-role behavior in the classroom, (2) expectations and biases about students, and (3) various women's liberation issues. Of the extensive results from this study, it was found that in general teachers both observed traditional sex-role differences among their students and felt that the students wanted to be treated accordingly (i.e., females in a more caring, genteel, less stern manner; males in a more stern, limit-setting, authoritarian way). Interestingly, 86% of the male teachers viewed the female students as deserving "girl treatment," although only 56% of the female teachers affirmed this. In addition, 57% of the teachers (N=33) felt it was not a teacher's responsibility to facilitate sex-role changes, and not one teacher felt that students preferred female teachers over male teachers. Most of the data, then, seemed to point toward the maintenance of traditional sex-role typing.

Lungstrum's (1973) study of the factors related to occupational choice for high school students was based on the results of questionnaires from 366 students (81 males and 285 females) enrolled in a Wichita vocational education program. Data were gathered in a number of areas, including how influential and how helpful certain persons and sources of information had been in the students' decision making. For both female and male students, teachers consistently were seen as the most influential persons regarding occupational choices. Males cited their fathers and females cited their mothers as the most helpful persons in the choice process. Males indicated that they were less dependent on the influence of friends than did females. Finally, based on Roe's occupational classifications, 60% of the males and 45% of the females chose an occupation in the same or adjacent classification as that of their parents of the same sex.

The other essay, by Calabrese (1974), suggests that non-sexist teachers can have residual sexist attitudes which are conveyed in different ways to their students. Choice of words (e.g., "Who were the famous men who...") and acting on various expectations (e.g., that only a boy could be strong enough to carry a projector, or that boys have to be more argumentative, more risk taking, more interesting than girls) are but two areas in which teachers must diligently self-monitor lest they contribute to the perpetuation of inaccurate and unfairly limiting stereotypes.

Counselors' Influence

Counselors, long committed to the personal growth and development of their students, increasingly face the exciting and challenging prospect of collaborating with their teaching colleagues in a variety of ways to develop comprehensive,

responsive learning programs to reach many students. Emerging career development and career education programs in public schools offer one practical vehicle to influence student career development positively. While still working directly with students, counselors also can be indirect influencers in students' lives by helping teachers identify the developmental tasks facing students at their level, consulting on curricular units, planning and refining courses to encompass the real-life needs of the students, coordinating the career education program and defining new modes of working beyond the confines of the counseling office to promote positive student growth.

The literature reviewed in this section focuses in large part on the impact of counselor values and biases on the development, and specifically on the career development, of their students. While counselors often have been found to be facilitative in this regard, a number of studies have revealed an inhibitory effect, particularly on the career development of young women, because of counselor bias.

In an early dissertation, Riordan (1966) compared the sex-role concepts held by counselors and eleventh graders. Thirty female and 30 male students plus 30 female and 30 male counselors were administered a background questionnaire, Matthews' Marriage-Career Scale, three case studies, and Ford's Inventory of Feminine Values. The major finding, after a statistical analysis of the data was performed, was that counselors were much more accepting than students of the possibility that girls' lives will or should include considerations in addition to marriage.

Englehard's (1969) study of 871 Minnesota counselors investigated their attitudes toward women's roles by means of a traditional/emergent continuum. Among her findings were these: (1) female counselors were more emergent than male counselors, (2) married female counselors were most emergent, (3) single male counselors were least emergent, (4) younger counselors were not more emergent than older counselors.

In a study related directly to counseling practices regarding career planning with secondary school students, Thomas and Stewart (1971) found that female students planning careers in traditionally male fields may receive biased counseling. Counselors were found to respond more positively to female students with traditional feminine career goals than to female students with non-traditional masculine career goals. Although female counselors were more accepting of female students with non-traditional career goals (called "deviate career goals" by the authors), both male and female counselors were generally more accepting of female students with traditional (conforming) career goals, and additionally indicated that those with deviate goals were more in need of further counseling than those with conforming goals. Implications of these findings for helping young women go beyond cultural norms to non-traditional fields seem unequivocally clear. The need for stressing sex-fair counseling in counselor preparation programs is reinforced by such studies.

Flanagan and Jung (1971), reporting on PROJECT TALENT students over a 10-year period, noted that in 1970, 60% of the girls were consulting with a counselor about their post-high-school plans as compared with 53% of the boys. In

1960, in contrast, 46% of the girls and 49% of the boys were involved in comparable discussions. Over the 10 years, then, more students (and particularly girls) were consulting with their counselors regarding career planning.

Two studies by Bingham and House (1973a, 1973b) considered counselors' information about women and work and counselors' attitudes toward women and work, respectively. A total of 126 secondary school counselors from New Jersey responded to the investigators' 50-item questionnaire, which, it should be noted, was not tested for reliability and validity for the purposes of this study. Twenty-five of the items were true-false questions related to factual labor-market data about the employment of women. Of the 13 answered incorrectly, there was a statistically significant difference between the number of males and the number of females who answered incorrectly (more males than females answered incorrectly) on seven of the questions. The authors raised the issues of whether counselors (and apparently men more than women) are simply misinformed; of whether there are attitudinal differences as causes; and the means of addressing such concerns in the schools and in counselor training programs.

Bingham and House's second article (1973b), dealing with counselors' attitudes toward women and work, reported "fairly inconclusive" results, although in general the 126 counselors expressed more positive than negative attitudes toward the issue of women in the work force. These findings seem to be fairly unimpressive ones, methodologically as well as attitudinally.

Friedersdorf (1974) investigated the attitudes of secondary school counselors toward career planning with female students. Each counselor completed the Strong Vocational Inventory Blank while role playing a female high school student who was college bound or non-college bound. While female counselors perceived the college-bound student as interested in a wide range of professions (both traditionally female and traditionally male professions), the male counselors related the same student to traditional feminine occupations at the semiprofessional level. Although the male counselors did consider that the college-bound female student would be interested in traditionally male occupations, they saw her purpose for attending college as preparing for a traditionally female career in education or home economics. One must assume, then, that these different attitudes would affect the explicit and implicit messages communicated by the counselors to their own female students.

Guttman (1974) reviewed studies on counselor sex bias, sexist counseling practices, and other issues related to the training of non-sexist counselors. Hansen (1972a) set forth a career development conceptual framework through which counselors can positively influence female growth by means of systematic and developmental curricular interventions, consultation with teachers, and a careful review of their own counselor practices.

Hipple (1975) compared perceptions of female sex roles held by high school counselors with those of college freshmen. Of all the high school counselors in Idaho who were mailed a copy of the MAFERR Inventory of Feminine Values (Ideal Woman), 108 (31 women and 77 men) returned completed protocols. Fifty female and 50 male freshmen at the University of Idaho were randomly selected to fill

out the MAFERR as well. The statistical analysis of the data revealed no significant differences among the four groups, with each group maintaining views of the ideal woman which were balanced, but slightly toward the career value directions of the scale. It seemed, then, that counselor sex bias would not preclude a girl's consideration of a career during her life.

Occupational aspirations of 139 female eleventh graders were investigated in a study by Burlin (1976). A questionnaire was devised by the author to measure the students' choices of ideal (i.e., aspired toward) and real (i.e., expected) occupations, and follow-up interviews were arranged with 25 respondents whose ideal choice was innovative but whose real choice was traditional. Significantly different selections of occupations (at the .005 level) between the real and ideal choices were indicated: innovative choices were more often ideal (51%) than real (32%) choices, while traditional choices were more often real (56%) than ideal (29%) selections. Of the students interviewed, it seemed that parents were the strongest influencers of their attitudes. More than half of the girls suggested that their parents did not support their innovative occupational aspiration because they felt a more traditional occupation should be pursued (e.g., a nurse rather than a doctor). While this study could have been included in the section devoted to parental influencers, it was considered here because of the potential impact which counselors can have in helping female students carefully and thoughtfully weigh and explore all their occupational ideas--traditional and innovative--before making a commitment to any of them.

Hawley's (1976) study cited the need for counselors and teachers to influence female high school students through the establishment of (1) consistent performance standards (rather than sex-related standards) for female and male students and (2) small group experiences to consider long-term life-planning issues (e.g., what life will be like at age 50).

Englehard's (1969) initial data were considered with additional data as part of a six-year longitudinal study of the development of counselor attitudes toward women's roles. The latter study (Englehard, Jones, and Stiggens, 1976) explored attitudes related to the dual role of mother and worker, perceptions of sex-role definition, and the expected impact of women in the society at large. Although female and male counselors differed on all three dimensions, a significant finding was that both females and males evidenced parallel attitude growth over time toward a more emergent view of women's roles.

Lesser (1976) investigated the relationship among counselor gender, experience and attitudes/bias toward women. An effort also was made to determine whether any significant changes in counselor attitudes had occurred since the beginning of the women's movement.

A total of 197 junior and senior high school counselors in Nassau and Suffolk Counties, New York, mailed responses to two questionnaires (MAFERR Inventories of Feminine and Masculine Values) and three forced-choice case studies. The scores from the questionnaires revealed a significant bias in favor of women, but two of the three case studies indicated a significant bias in favor of men. The author's analysis of the data included the following: "When dealing in ideal

terms of the MAFERR inventories, the counselor's obvious wish is to be egalitarian. In real-life situations, however,...the counselors revert to a more comfortable, more conventional position that favors men" (pp. 87-88). The author, in view of the results of this study, went on to propose specific interventions for counselor training programs as well as an in-service training sequence for counselors related to sexism in the schools.

Rapoza and Blocher (1976) studied 1,577 high school seniors from a large midwestern city and found that nearly one-fourth of the girls were not able to report any kind of educational or vocational plan for themselves. The avoidance of planning, which the authors called "the Cinderella Effect, waiting for the glass slipper" (p. 18), was seen as a distinct liability for these girls, all of whom were faced with fairly immediate decisions about their futures. Further, the authors noted that "helping girls to plan clearly and consciously for a future in which education, work and family responsibilities can interact optimally for self-actualization may be the greatest challenge facing counselors today" (p. 18).

In conclusion, Bem and Bem (1973), citing a variety of emerging societal trends which will make it possible for women to attain equality in the world of work, made a strong statement about the crucial impact of counselors in working with young persons:

> The guidance counselor is strategically placed either to act as a catalyst for these forces or to counsel young men and young women into a stereotype of work and family which no longer matches reality. Because most adolescents are not yet sensitive to these trends and because young girls have already learned to limit their horizons to home and family, the guidance counselor must be prepared to act as a social change agent (p. 20).

Schools as Influencers

The works mentioned in this section are presented as a brief overview of the kinds of impact which schools can have upon the career socialization and career development of their students. The influence of persons (teachers, counselors, administrators, paraprofessional staff members, school board members), policies and their underlying philosophies are either explicit or implicit in these representative works from the literature.

Since the Education Amendments of 1972 were enacted by the U.S. Congress, all educational programs receiving Federal assistance have been mandated to eliminate sex discrimination. Title IX of these Amendments specifically addresses the issue of eliminating sex discrimination and is based on the premise that all students, regardless of sex, must be afforded equal opportunities in educational institutions and programs.

Although athletic programs have received much of the initial attention regarding compliance with Title IX (see below), the impact of the statute is far more comprehensive in nature. Secondary schools' policies and practices regarding recruiting, admissions, and financial aid (primarily applicable to private schools), as well as rules, graduation requirements, textbooks, curricula, and counseling services, all come under the purview of Title IX. Now, in educational programs and institutions, sex discrimination is not just ill-advised or shortsighted, it is against the law. Dunkle and Sandler's (1974) paper discusses the implications of Title IX in some detail.

The Education Amendments of 1976 provide further legal mandates against sex bias, particularly the sections dealing with vocational education and career education. State plans to eliminate sex bias in vocational education are being written with provision for training of teachers and counselors. Because it has been documented through a study by the National Institute of Education that career education materials are heavily sex-biased (Women on Words and Images, 1975) and that career education programs have not been particularly attuned to sex-bias issues (Sandler, 1977), it is even more incumbent on the schools to monitor their own career education materials and practices to help bring about changes in these areas. A national survey conducted for the USOE by the American Institutes for Research (McLaughlin, 1975) reported the following findings regarding materials in use in career education programs: 1) 76% of the commercial materials are sex-biased, 2) 49% of the non-commercial materials are sex-biased, and 3) 42% of the school districts report that they are not taking any steps to remove sex bias from materials (pp. 167-168).

Nolte (1973) reported on legal cases in two states which addressed the issue of sex discrimination in competitive athletics. An Illinois court upheld the state athletic association's right to prohibit girls from participating in boys' athletic programs, citing physical and psychological differences between the sexes. In Minnesota, on the other hand, a lower court ruled that two high school girls could not be excluded from interscholastic athletics because of their sex. The court went on to forbid the school districts and the league in question from engaging in discriminatory practices in athletics solely on the basis of sex.

Regarding schools as potential influencers in the career planning of their students, Prediger, Roth, and Noeth's (1974) nationwide survey of eighth, ninth, and eleventh graders led the authors to conclude that many schools in general and counselors in particular "have failed to accept and communicate career planning as an appropriate responsibility of the school and that, as a result, students do not expect or request help with career planning" (p. 100). This is in spite of the additional finding that more than 75% of the eleventh graders and almost as many eighth graders surveyed had expressed a need for specific help in career planning. As with the Flanagan and Jung study (1971), students are asking for more help than they are receiving in this area.

A comprehensive, seven-year longitudinal study of over 1,800 students by Hilton and Berglund (1974) focused on sex differences in mathematics achievement. The data considered were gathered for the Educational Testing Service Growth Study, beginning in 1961 and continuing biennially through 1967, as the students being studied were fifth, seventh, ninth and eleventh graders. Roughly equal numbers of females and males who participated in this study completed yearly background questionnaires (except in 1961). Also, students took two tests, the Sequential Tests of Educational Progress (STEP) Math Test and the School College Ability Test (SCAT), Quantitative section.

The findings from the study indicated no differences in mathematics achievement between fifth grade boys and girls, but thereafter the boys excelled. The increased divergence in achievement was accompanied by other comparable differences, with a higher percentage of boys perceiving mathematics as interesting and as a subject likely to be helpful when they were responsible for earning a

living. Although this study was not designed to measure such consideration, it seems clear that a circular relationship involving interest and achievement was a factor: greater interest in mathematics leads to greater achievement. Whether or not the nature of the relationship was determined by this study, the implications for educators as to their influence on students are crucial to consider. The investigators suggest "one word of positive feedback from a respected teacher, guidance counselor, or peer, and the student is immediately more interested in mathematics and, as a consequence, immediately more able in performing academically" (p. 234).

The work of Ernest (1976) at the University of California at Santa Barbara also reviews the impact of sex-typing of mathematics on career choices of females and the limiting effects on women not choosing to continue the study of mathematics in high school. These views strongly reinforce that of Maccoby (1966), who wrote:

> Members of each sex are encouraged in, and become interested in and proficient at, the kinds of tasks that are more relevant to the roles they fill currently or are expected to fill in the future. According to this view, boys in high school forge ahead in math because they and their parents and teachers know they may become engineers or scientists; while the girls know they are unlikely to need math in the occupations they will take up when they leave school (p. 40).

Minuchin (1972), in an excellent essay, discusses goals for schools which would be responsive to the needs and development of liberated young females (the author defined "liberated woman" as "one who can make personally meaningful choices about the pattern of her life"). The four general goals were these: (1) minimizing stereotypes; (2) providing broad exposure to experiences, ideas and models; (3) educating for problem-solving, evaluating and decision-making skills; and (4) enhancing self-differentiation and self-knowledge.

While the paper is directed at the influence of schools upon the growth and development of girls and young women, it speaks articulately to the issue of the tremendous impact which schools as institutions (at every level) have upon <u>all</u> of their students. It is fitting to quote at length directly from the work in concluding this section:

> Any school is a small society. It offers most children their first paradigm of a larger society beyond the family and subtly teaches something about the parameter of possible development. It offers models of adult roles and possible life style. It teaches attitudes and expectations for girls and for boys through the organization and content of its curricula and through the tone and nature of its teacher-child relationships. To the extent that the school is rigid and narrowly sex-typed in these aspects, it probably hampers the growing girl [and, we would add, boy] unnecessarily in the exploration and understanding of her own possibilities...But the school shapes as well as reflects behavior,

and it can lean either toward rigid maintenance of the status quo or toward openness to change. What this viewpoint stresses is the development of a school atmosphere that expects and values variety, that acknowledges changing patterns and encourages exploration, and that minimizes the probability of a "self-fulfilling prophesy" with regard to sex-linked behavior, whereby the growing girl [and boy] comes increasingly to exemplify the attitudes, roles, and adjustments that are predicted for her (pp. 200-202).

PART V: INTERVENTIONS

Although a major goal of Project BORN FREE is to develop training models and materials and to create multimedia training modules which will foster the reduction of sex-role stereotyping in educational institutions, it is important to mention some of the kinds of interventions to reduce career-related sex-role stereotyping presently in existence or being considered in the schools. What follows, then, is a brief overview of selected interventions at the junior high school and high school levels. Many are not fully implemented or evaluated so data on effectiveness are limited. These programs, whether ideal plans or current realities, can be examined for relevance in two subcategories: (1) curricular interventions and (2) school-wide and system-wide interventions.

Curricular Interventions

Birk and Tanney (1973) developed a model to stimulate the exploration of career goals by young women in junior and senior high schools. A series of planned activities adaptable to three one-hour sessions helps the students to become sensitized to the status quo regarding women's roles, to broaden their perspective regarding possible roles, and to investigate some of the attitudes which would tend to lock them into the status quo and hinder their consideration of all possible roles.

The Emma Willard Task Force on Education (1971) identified a wide variety of curricular areas related to the general goals of Project BORN FREE, including well-defined units in history, literature, sociology, sex education, home economics, industrial arts and physical education. The Task Force also has created a number of consciousness-raising games, projects, and exercises for use in the classroom.

Kuster, Grev, Gubbrud, and Lindquist (1972) created a curriculum-based unit intended for senior high social studies classes on "Women in History." The unit combines historical content about women's achievements and the women's movement with experiential consciousness-raising activities.

Stebbins, Ames and Rhodes (1975) have created a Sex Fairness in Career Guidance kit for use primarily by high school counselors.

DeKock (1972) developed a curricular unit to help high school students examine the development of women's roles. "Various simulation, role-playing, research and discussion and real-world-contact project experiences help persons of both sexes understand how they came to adopt the sexual roles they are currently living" (p. 1).

Farquhar and Mohlman (1973) reported a proposed full-year, non-sexist introduction to practical arts for seventh graders. Predicated on the notion of life competence, the course would offer six modular units for all students, covering a broad range of basic skills in home economics and industrial arts, traditionally the province of only girls and boys, respectively. The units, all directed at practical skill-building appropriate for all, include foods, basic home repairs, fabric shop, money management, personal relations, and care of living things (specifically, pets, houseplants, and gardens).

A short course on the origins of sex role stereotyping was described by Guidette, Glitzer, and Greenwood (1976). The ninth graders taking the course took part in a variety of class activities aimed at helping the students learn on their own about the limiting nature of stereotyping. Analyses of the media, elementary and secondary textbooks and their own personal role socializations provided a wide range of data for potentially myth-shattering and stereotype-shattering discussions led by teachers.

Golden and Hunter's (1974) work has included the production of a monograph reviewing the literature on sex-role stereotyping and a series of films related specifically to sex-role stereotyping in schools. The films, to date five, focus on issues including career-oriented and physical activities, the expression of emotions, the career expectations of elementary school students, and various cultural stereotypes of womanhood. The films are appropriate for viewing and as discussion stimuli for students, teachers, parents and community groups and teacher and counselor training programs.

Wells (973), Goldstein (1973), and Sheridan (1972) all reported curricular interventions for English courses. Wells discussed strategies for developing a secondary-level course introducing the concept of alternative lifestyle choices for women in American culture. Appropriate fictionalized role models are considered in terms of options available and personal and moral decisions which they had to confront.

Goldstein's paper described a ten-week elective course for twelfth graders entitles "Literature and Women's Liberation," which deals with both classical and contemporary fiction, non-fiction, poetry, and drama concerning the roles of women. The latter stages of the course address contemporary society's stereotyping of women.

Christensen, Romero, and Schmeling (1977) have prepared The Whole Person Book: Towards Self-Discovery and Life Options. It provides a basis for a self-report with a variety of career development exercises and quizzes.

Sheridan edited an entire issue of the Minnesota English Journal focused on reading, in which several curriculum units of interest were mentioned. One looked at the portrayal of women in children's books, another had as its subject the role of women in fiction, and a third was called, "A Woman's Place: What's Cooking in Junior High School English Anthologies." This author also cites research on the biased or stereotyped portrayal of women in junior high school textbooks.

Hansen's (1972a) model for career development through curriculum is a systematic, sequential approach for grades K-12. It is predicated on the importance of a positive self-concept and utilized a variety of media, a resource center, classroom activities, and on-the-job interventions in its implementation.

Hansen (1972b) also described a variety of important educational interventions for students at different developmental levels. Junior high school students, for example, will benefit from opportunities to meet and talk with adult role models representing various career/family/lifestyle patterns, as well

as from initial values identification and clarification activities. Senior high school students, continuing their examination of their values, strengths and interests in a variety of self-exploration courses, can extend apprenticeship and volunteer experiences in the community at large.

The Minnesota Career Development Curriculum (CDC), described in the literature (Hansen and Tennyson, 1975) and set forth in detail (Tennyson et al., 1975), is grounded in developmental psychology and career development theory. Considerable thought is devoted to the range of interventions through which CDC can be made available to school systems. These interventions include the following: infusing career development concepts and materials into the curriculum, work experience programs, providing role models, career information resource centers, multimedia approaches, cross-age teaching, staff development, placement and various counseling interventions.

Two excellent examples of infusing career development into the curriculum were reported by the Mesa Public Schools (1973) and Neuwirth et al. (1971). In Mesa, the Comprehensive Career Guidance Program developed units of curriculum for use within previously existing courses. The latter program involved virtually all of the faculty in a junior high school, and the result was a career development interdisciplinary model as a basis for the entire school's curriculum.

School-Wide and System-Wide Interventions

A few of the diverse school- and system-wide interventions will be mentioned here to give a sense of the current state of the art.

Havelock (1973) developed a six-stage intervention model based on the inputs of a change agent whose role is defined as a process helper in an educational institution. It is mentioned here because it is a model compatible with the goals of Project BORN FREE. In the model, the intervention process includes distinct stages of building a relationship with the client, diagnosing the problem, acquiring appropriate resources, choosing a solution, gaining acceptance for the plan of action, and stabilizing and generating self-renewal for the change.

Herr (1969) proposed an entire educational system based on the theme of career development. Within such a system, junior and senior high school students are involved in acquiring the basic habits of industry and developing identities as workers. Herr also recommended a strengthening of cognitive skills along with the integration of "tryout" and actual work experience into the school program.

Tuckman (1974) described eight stages of child development with respect to the child's primary behavioral orientation in each stage. For each of these, he also discussed appropriate career development themes and various instructional media with which to present the thematic material in school settings.

Hansen (1972a) described obstacles to women's career development, cited curricular intervention strategies to facilitate the career development of young women, and set forth a notable list of resources already in existence for teachers' and counselors' use in promoting women's development. The resources include handbooks and other printed materials, questionnaires, games, exercises, simulations, films, video cassettes and filmstrips.

Patterson (1973) began with the assumption that "few girls today leave school at any level with clear and realistic career plans" (p. 269), in part because of two conflicting identity issues which have not effectively been dealt with in the schools, particularly by counselors. The two issues in question relate to acceptance of the sex role and acceptance of the vocational role. Patterson urged a kingergarten-through-college developmental program, beginning with the setting of expectations for young girls that career aspirations are acceptable. As girls grow older, both sex-role and career-role issues can and should be discussed in a variety of ways.

In her essay, Smith (1975) forcefully recommended more realistic life planning for girls and outlined the advantages of careers in skilled trades for women. When asked to project themselves ahead into adulthood, high school girls tend to look ahead to age 25; they are caught up in the Cinderella Syndrome in that they plan only for early marriage and a career as homemakers. The years 25 to 75 are not considered. After making the statement "Every woman without a trade is one man away from welfare," the author cited several critical areas for action within the schools, including these: (1) all classes should be open to both sexes; (2) in-service materials on sex bias should be available; (3) students should be aided in the important exercise of beginning to build life strategies from the present to age 75.

As part of the article cited earlier in the "Influencers" section, Ricks and Pyke (1973) made a number of suggestions for action programs which are worthy of mention. Besides the exploration and confrontation of teacher biases and misconceptions which foster traditional stereotyped sex roles, parents or parent-teacher groups which focus on the problems and feelings regarding changing sex roles were suggested. Resource materials (bibliographies, media) for parents, teachers, and administrators would be an important adjunct to this process. Schools and school systems should make conscious efforts to attain greater admixtures of roles for the adults who work there and who serve as models for the students: female/male teaching teams, female/male administrative teams (e.g., co-principals), male secretaries and receptionists, and maternity leaves for male as well as female teachers represent but a few creative and forward-looking ideas by the authors.

Project BORN FREE (Hansen, 1980) is an intervention aimed at training educators and parents in the K-12 continuum to become more aware of ways in which they inhibit or facilitate career options for children and youth. It consists of a training packet for the elementary and secondary levels to be used in in-service workshops, classroom activities, and other implementation strategies. It also consists of ten color videotapes and viewers' guides to be used as part of the training.

Smith, Stroup, and Coffman (1975) were actively involved in the University of Kansas Career Exploration Project, which developed and field-tested a program to encourage outstanding high school senior women to pursue traditionally male careers in the pure and applied sciences. The project activities included workshops for the students and their parents, as well as a home course of study, Women in Professional Careers.

Project EVE (Equal Vocational Education), a University of Houston program funded by the Texas Education Agency, was concerned with recruiting female high school students into vocational education programs traditionally chosen only by males. The final project report by Lerner, Bergstrom and Champagne (1976) indicated that besides the increased enrollment of females in the previously all-male vocational programs at the demonstration school, additional project activities included presentations at junior high schools in Houston.

The Minnesota State Department of Education (1975) has developed a model "through which educators may examine, classify, evaluate and develop curriculum and instruction in all discipline areas. The system will be created and tested primarily in the effort to eliminate sexism, racism, and other philosophies that limit human development" (p. 2).

The Women's Educational Equity Act Program (WEEAP) through its first two years of funding has given financial support to 67 change-agent projects around the country in their effort to reduce sex bias. About 47 large grants and 20 small grants were awarded to a variety of public and private agencies and institutions to implement the goals of the Act. These are briefly discussed in a summary report issued by the WEEAP staff (Women's Educational Equity Act Programs, 1976).

SUMMARY

It would be an impossible task to include all the studies on sex roles, career development and sex differences in a review of this scope. The authors sought to identify those studies and theoretical formulations most closely related to the goals of Project BORN FREE at the secondary level.

It should be stressed that the state of the art of "what we know" about career socialization is still primitive. Maccoby and Jacklin (1974) have identified in their review of empirical studies those areas of sex differences which seem to be established through considerable research (e.g., aggression, verbal abilities, spatial relations). They have further identified those areas in which the evidence is conflicting or research simply has not been done. Evidence of the uncertainty and controversy which still exist is provided in an article by Block (1976) in which she is highly critical of the research summaries of Maccoby and Jacklin. The work of Golden and Hunter (1974) contributes to the documentation of the existence of sex-role stereotyping in the schools as does that of Guttentag and Bray (1976), whose research and intervention were primarily at the elementary and junior high levels.

In spite of the abundance of research, there is much that is not known about sex-role stereotyping and career socialization. Some of the relationships are inferred rather than direct; hence the need for caution in making generalizations about what sex differences exist, their causes, and their impact on career development of adolescents.

In completing this review, and comparing its findings with clinical observations made through an analysis of participating junior and senior high schools, the authors were shocked at the similarity of the research evidence and the anecdotal data. In fact, two local studies completed in participating schools produced results very similar to those of Douvan and Adelson (1966) over a decade ago.

There does seem to be some evidence that sex stereotyping exists, that it occurs at home and school, and that it has considerable impact on the kinds of educational/vocational decisions made by boys and girls and the kinds of life-style options they consider. While the final word is not in on the career development and career decisions of adolescents, there does seem to be a reasonable case for action. This review is intended to be used as a basis for intervention by educators and parents who wish to change their behaviors, attitudes and practices to reduce barriers and expand career options for adolescent girls and boys. BORN FREE: Training Packet to Reduce Sex-Role Stereotyping in Career Development has been created to accompany this review. Nine color video cassettes are to be completed as part of the training materials.

It is expected that the literature review, combined with the institutional analysis of participating schools, and the career development conceptual framework will provide a solid base for the development of training materials. Such

materials are needed to increase educator and parent awareness and to motivate them to more positively facilitate adolescent career development as it relates to sex-role stereotyping.

A brief summary from the secondary literature review, in outline form, appears below. Major findings from some of the studies are presented in capsule form. Identified as part of the area of career development and sex-role stereotyping are information processing, influencers, sex-role stereotyping and interventions to reduce stereotyping. Because the studies are very uneven in their rigor and design, readers need to check the reports carefully before accepting the generalizations made.

Sex-Role Stereotyping in the Schools

Literature abounds with studies elaborating on the existence of external and/or environmental restriction cues that reinforce sex-role stereotypes in the American educational system.

1. Some structural processes of the schools not only encourage but also reinforce role stereotypes for girls and boys--notions of sexual complementarity (Dobbert, 1975).

   A. Role grou[illegible]ng in non-academic student activities--males do the sports activities while females do the cheerleading; boys initiate dates while girls wait.

   B. Adult models in school administration are overwhelmingly male: in the high school, only 3% in the principal's role are women. Girls quickly learn that females, in general, do not fill administrative roles and those women that do are probably unusual or exceptional (Taylor, 1973).

   C. Schools give ambiguous messages regarding sexual complimentarity. Overtly and officially schools carry messages of sexual equality in compliance with Title IX, while covertly placing men and women in traditional roles, with girls becoming homecoming queens and boys football heroes.

2. Textbook images portray males and females in traditional stereotypic roles.

   A. In several analyses of textbook materials currently used in the schools, women were portrayed as "old maids," heartless people, "plotting to catch a man" (Hurst, 1973).

   B. Males were featured in major roles almost four times more often than females (Britton, 1973).

   C. Descriptive words for boys were: daring, intelligent, ingenious, problem solver, doers, achievers, builders, sportspeople, heroic, persevering, aggressive, stoic and emotionless (Britton, 1973).

D. Girls were portrayed as docile, pleasing, self-effacing, incompetent, inept, passive, non-achieving, unthinking observers, neat and clean (Britton, 1973).

3. It appears that in the scientific field the stereotypic treatment of boys and girls is highlighted (Hardin and Dede, 1973).

   A. Forces which seem to perpetrate sex-role stereotyping include: lack of role models to encourage girls to become scientists; a small group of women actually in science which may limit models of success for female students; subtle socialization of boys and girls, e.g., in the toys they play with; and books which portray boys as active problem solvers while girls are shown in need of support and help.

   B. Astin (1973) found that girls perform as well as boys in mathematics, science and tests of spatial relationship up to about age 10. Thereafter, their performance becomes increasingly poorer. Astin suggests that this effect is due, in part, to differential reinforcement on the part of parents and teachers.

4. Sex-role stereotyping in athletics, despite Title IX legislation, is well-defined for girls and boys (Engle, 1973; Sandler, 1975).

   A. Myths refuted that girls are not interested in competitive sports, and that they have fragile bones, underdeveloped muscles and vulnerable reproductive organs, making them more prone to injury than boys.

   B. Reverse socialization problems seem to occur for non-athletic boys in comparison with the athletic girl (Cottle, 1972).

5. It appears that the strength of the stereotypic roles viewed appropriate for boys and for girls seems to increase with age, and these roles appear to be more fully developed in later junior high and senior high school years (Entwisle & Greenberger, 1970; Sparks, 1967; Stein, 1971).

6. Studies also demonstrate that females are more likely to give an egalitarian, liberal response than males, with egalitarian defined as being more positive and favorable to the concept of social change for women, so as to provide them with greater freedom to participate in social, economic and political spheres (Greenberg, 1973; Sheppard and Hess, 1975).

Psychological Variables

Self-Concept

Adolescents think others are as obsessed with appearance and behavior as they are themselves--egocentrism of adolescents (Elkind, 1967).

As age increases, boys exhibit progressively higher opinions of boys and girls devalue their own sex (Smith, 1939).

Tenth-grade girls reveal lower self-concept scores than any comparison groups (Bohan, 1973).

Adolescents of both sexes have lower self-concept than children of younger ages (Katz and Zigler, 1967).

Junior high girls perceive themselves to be less active than junior high boys (Wiggins, 1973).

Girls feel they are more competent in social and interpersonal skills while boys are more sports-minded (Wiggins, 1973).

Sense of Agency

Girls who had expressed strong vocational goals in junior high switched to marriage goals in senior high (Matthews and Tiedeman, 1964).

There was evidence of lack of vocational goals and planning for high school girls (Lewis, 1975; Zytowski, 1969).

Girls are more dependent on praise and support from others rather than on their own internalized standard of excellence (Veroff, 1969).

Girls in senior high place less emphasis on higher education than boys (Rapoza and Blocher, 1976).

Females are more field dependent (Asche, 1974). Field-dependent girls are unlikely to believe that they are as capable as boys at new tasks and will be unlikely to try them (Lockheed, 1976).

Achievement Motivation/Aspirations

Girls have a more positive attitude toward school and achieve higher grades (Ellis, 1968).

Boys tend to experience decreased academic success when accompanied by a more traditional sex-role identity (Ponzo, 1973).

Girls do better academically with a more traditional sex-role identity (Ponzo, 1973).

Girls' college attendance varies greatly with high school curriculum. Boys are not influenced by this (Harp, 1976).

Junior high girls choose non-traditional college-related goals but change in high school to more stereotyped choices (Veroff, 1969).

For females, prestigious occupations and aversion were positively correlated, a result not found for males (Barnett, 1975).

Both males and females attribute more prestige to both women and men who conform to sex-role stereotypes (Simpson, 1974).

Career Information Processing

Differences exist between boys and girls in their information processing, career planning and awareness of options. The literature reflects the following findings.

Boys

Boys demonstrate a cultural disposition to choose and prepare for career roles (Douvan and Adelson, 1966).

Boys were viewed as actively engaged in and concerned with career planning and career decisions (Douvan and Adelson, 1966).

A developmental relationship exists between age and realistic planning: older boys are more realistic in their career attitudes and expectations (Douvan and Adelson, 1966).

Boys are viewed as more realistic than girls in their career planning (Douvan and Adelson, 1966; Flanagan and Jung, 1971; Jones, 1966).

Boys' fantasies were similar to their career aspirations, focusing on work and personal satisfaction derived from contributing to a work group (Douvan and Adelson, 1966.

Boys' worries and concerns also centered on work and achievement (Douvan and Adelson, 1966).

Girls

Girls were less realistic than boys in their career plans, with ambiguities and inconsistencies appearing in their educational plans (Douvan and Adelson, 1966; Prediger, Roth and Noeth, 1974; Rand and Miller, 1972).

Although girls indicate a strong desire and plans for working, their career plans are in traditional stereotypic areas such as teacher, secretarial and clerical work, social services, and nursing (Prediger, Roth and Noeth, 1974).

Girls' educational and career plans revealed a lack of coherence, a result not found in boys' plans (Douvan and Adelson, 1966).

Hawley (1976) suggests that one possible reason for girls to be less realistic in their career planning than boys might be that work has a lower priority for girls.

Marriage is a major goal for girls, with girls wanting and expecting to marry (Douvan and Adelson, 1966; Rand and Miller, 1972).

While most girls expect to combine career, marriage and motherhood, and feel that working wives are admirable, an equal proportion consider working mothers as being bad for children (Farmer, 1971; Rand and Miller, 1972).

Girls showed considerably less coherence between reality and fantasy than boys, shifting dramatically away from the reality areas of jobs, education and achievement striving. Main themes dominating girls' fantasies were femininity, personal attractiveness, and popularity (Douvan and Adelson, 1966).

Literature supports the adolescent females' need to be socially successful, while adolescent boys' concerns stress personal achievement (Baumrind, 1972; Frazer and Sadker, 1973; Hawley, 1976; Sexton, 1969).

Findings by Burlin (1976) demonstrated that although a majority of young women were aware of a broad range of occupations, they did not feel free to pursue these choices due to the existence of fear of environmental restriction cues--e.g., inappropriate occupations for females.

Influencers of Career Development

Parents have the strongest influencing effect on their daughters' and sons' occupational choices (Drabick, 1967; Lungstrum, 1973).

Parents are crucial influencers in the general socialization process of their daughters and sons, i.e., regarding the range of ways in which women and men interact and regarding conveying attitudes toward role expectations (Drabick, 1967; Lungstrum, 1973).

Teachers were cited as being most influential, outside of the family, on students' occupational choices (Lungstrum, 1973).

Teachers are in key positions to encourage divergent choices for students or to perpetuate stereotyped norms, e.g., of unequal treatment of the sexes, of quite different expectations of students related to sex (Bem and Bem, 1973).

Counselors, like teachers, are persons who could take the lead in promoting emergent choices and behaviors in their students, but who do not consistently do so (Friedersdorf, 1974; Hansen, 1972a; Hawley, 1976).

Female counselors were noted in several studies as being more facilitative of emergent behaviors and attitudes than were male counselors (Englehard, 1969; Thomas and Stewart, 1971).

Schools are often seen as perpetuating the status quo, including stereotyped sex-role and socialization norms (Minuchin, 1972; Prediger, Roth and Noeth, 1974).

Interventions

Two major areas of interventions were discussed in the literature review: interventions in curricular areas and interventions school-wide or system-wide. Among these are the following:

Birk and Tanney (1973) have developed a model to stimulate the exploration of career goals by young women in junior and senior high school.

The Emma Willard Task Force on Education (1971) has identified and created units and activities in a variety of areas related to sex-role stereotyping.

The National Education Association has created an excellent kit on sex-roles for elementary and secondary education.

Hansen's model (1972a) for career development through the curriculum is a systematic, sequential approach, K-12, which stresses the importance of self-concept, the use of media, and classroom and on-the-job activities.

An excellent step-by-step, systematic resource for implementing change is Havelock's text (1973) A Change Agent's Guide to Innovation in Education.

This review has attempted to identify significant studies related to career development and sex-role stereotyping in the secondary schools. Within the framework of a career development conceptual model, it has examined aspects of sex differences and similarities in adolescence in such areas as self-concept, locus of control, achievement motivation, career information processing and sex-role stereotyping. It also has looked at some of the influencers on career development and interventions created and implemented by various psychologists and educators to reduce career-related sex-role stereotyping.

Recognizing that the literature on career socialization is still very much unfinished business, the authors suggest caution in accepting the generalizations and findings as the final word. At the same time they believe that the evidence of limits on career options is sufficient to support expanded activity by educators and parents to reduce these limits on adolescent career growth.

It seems appropriate to conclude with two statements from Maccoby and Jacklin (1974) which highlight the issues.

> Returning to one of the major conclusions of our survey of sex differences, there are many popular beliefs about the psychological characteristics of the two sexes that have proved to have little or no basis in fact. How is it possible that people continue to believe, for example, that girls are more "social" than boys when careful observation and measurement in a variety of situations show no sex difference? Of course it is possible that we have not studied those particular situations that contribute most to the popular beliefs. But if this is the problem, it means that the alleged sex difference exists only in a limited range of situations and the sweeping generalizations embodied in popular beliefs are not warranted (p. 355).

> However, a more likely explanation for the perpetuation of "myths," we believe, is the fact that stereotypes are such powerful things. An ancient truth is worth restating here: if a generalization about a group of people is believed, whenever a member of that group behaves in the expected way the observer notes it and his belief is confirmed and strengthened; when a member of the group behaves in a way that is not consistent with the observer's expectations, the instance is likely to pass unnoticed, and the observer's generalized belief is protected from disconfirmation. We believe that this well-documented process occurs continually in relation to the expected and perceived behavior of males and females, and results in the perpetuation of myths that would otherwise die out under the impact of negative evidence. However, not all unconfirmed beliefs about the two sexes are of this sort. It is necessary to reconsider the nature of the evidence that permits us to conclude what is myth and what is (at least potentially) reality.

It has been the intent of this review to provide a reasonable base for: 1) differentiating myth from reality in the area of adolescent career socialization, and 2) developing training materials to help achieve the goals of Project BORN FREE.

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